Five-Year Review Report

Third Five-Year Review Report
For
The Summit National Superfund Site

Deerfield

Portage County, Ohio

August 2008

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Region 5
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Date:

8-25-08

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Five-Year Review Report

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List of Acronyms

ARAR	Applicable or Relevant and Appropriate Requirement
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
C-56	Hexachlorocyclopentadiene
EC	Environmental Covenant
ESD	Explanation of Significant Difference
ICs	Institutional controls
LIU	Lower Intermediate Unit
NCP	National Contingency Plan
NPL	National Priorities List
OEPA	Ohio Environmental Protection Agency
O&M	Operation and Maintenance
OMMP	Operation, Maintenance and Monitoring Plan
PCB	Polychlorinated biphenyl
PRPs	Potentially Responsible Parties
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RD/RA	Remedial Design/Remedial Action
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
SNFT	Summit National Facility Trust
SNLD	Summit National Liquid Disposal Service
SNS	Summit National Superfund Site
SSIPL	Site-specific indicator parameter list
SVOC	Semivolatile organic chemical
TAL	Target analyte list
TCL	Target compound list
TSCA	Toxic Substances Control Act
UECA	Uniform Environmental Covenants Act
µg/l	Micrograms per liter
UIU	Upper Intermediate Unit
U.S. EPA	U.S. Environmental Protection Agency
UU/UE	Unlimited Use/Unrestricted Exposure
VOC	Volatile organic chemical
WTU	Water Table Unit

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Executive Summary

The Summit National Superfund Site (SNS) is an 11-acre property in Deerfield, Ohio. The Site was a strip mine, coal washing and coal storage operation prior to 1974. From 1974 to 1978, the then Summit National Liquid Disposal Service facility (SNLD) was used for liquid industrial waste storage, disposal and incineration. SNS accepted waste oil, sludges, resins, pesticides, plating waste, solvents, polychlorinated biphenyls (PCBs) and other wastes during this period. The Ohio Environmental Protection Agency (OEPA) ordered SNLD to cease operation in June 1978. A surface cleanup, including removal and off-site disposal of 17,000 drums, was completed in June 1982. SNS was placed on the National Priorities List (NPL) on September 8, 1983. The Remedial Investigation and Feasibility Study (RI/FS) was conducted from February 24, 1984, through June 30, 1988. Potential health risks were found to exist for exposure to contaminants in soil, sediment, surface water and groundwater.

A Record of Decision (ROD) was issued by the U.S. Environmental Protection Agency (U.S. EPA), with the concurrence of the OEPA, on June 30, 1988, and an amended ROD was issued on November 2, 1990. The amended ROD required excavation and on-site incineration of contaminated soils and sediment, and the contents of several hundred buried drums, extraction and on-site treatment of contaminated groundwater, treatment of on-site surface water, fencing and placing a clean soil and vegetative cover over the Site. An Explanation of Significant Difference (ESD) was issued by the U.S. EPA, with OEPA concurrence, on March 23, 1992. The ESD modified the amended ROD by adding the Toxic Substances Control Act (TSCA) as an Applicable or Relevant and Appropriate Requirement (ARAR) for soil incineration, due to the presence of PCBs in excess of 50 parts per million.

The trigger for this Third Five-Year Review was the completion date of the Second Five-Year Review for the Site. The Second Five-Year Review concluded that the remedy was executed in accordance with the requirements of the ROD, as amended by the ESD, and was protective of human health and the environment.

This Third Five-Year Review concludes that the remedy currently protects human health and the environment because exposure pathways to contaminated groundwater are being controlled and exposure to contaminated soil at the Site has been addressed by incinerating the most heavily contaminated soils, applying a cover of clean soil, a vegetative cover, and fencing. However, in order for the remedy to be protective in the long term, Institutional Controls (ICs) need to be implemented, compliance with effective ICs must be assured and groundwater cleanup goals attained. Compliance with effective ICs will be ensured through long-term stewardship by maintaining, monitoring, and enforcing effective ICs.

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Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name *(from WasteLAN)*: SUMMIT NATIONAL SUPERFUND SITE		
EPA ID *(from WasteLAN)*: OHD980609994		
Region: 5	**State:** Ohio	**City/County:** Deerfield / Portage
SITE STATUS		
NPL status: _X_ Final __Deleted __Other (specify)		
Remediation status (choose all that apply): __Under Construction _X_ Operating __Complete		
Multiple OUs?* __YES _X_ NO	**Construction completion date:** _8_ / _23_ / _1995_	
Has site been put into reuse? __ YES _X_ NO __ Portions		
REVIEW STATUS		
Lead agency: _X_ US EPA __State __Tribe __Other Federal Agency		
Author name: Pablo N. Valentín		
Author title: Remedial Project Manager	**Author affiliation:** US EPA, Region 5	
Review period:** 02/29/2008 to 08/22/2008		
Date(s) of site inspection: 07/03/2008		
Type of review: _X_ Post-SARA __Pre-SARA __NPL-Removal only __Non-NPL Remedial Action Site __NPL State/Tribe-lead __Regional Discretion)		
Review number: : __1 (first) __2 (second) _X_ 3 (third) __Other (specify)		
Triggering action: __Actual RA On-site Construction at OU #__ __Actual RA Start at OU# __ __Construction Completion _X_ Previous Five-Year Review Report __Other (specify)		
Triggering action date *(from WasteLAN)*: 9/22/2003		
Due date *(five years after triggering action date)*: 09/22/2008		

* ["OU" refers to operable unit.]

** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, cont'd.

Issues:

1.) Institutional Controls: Effective ICs must be implemented, monitored, maintained and enforced to assure that the remedy is functioning as intended with regard to the ICs. Once preliminary IC activities are completed, U.S. EPA will seek to have an Environmental Covenant (EC) under Ohio's version of the Uniform Environmental Covenants Act (UECA) recorded in the chain of title for the Site.

2.) Long-term Stewardship: Long-term stewardship needs to be assured for the Site. This will be provided by annual certifications that current Site use is compatible with the restrictions set forth in the EC, and modifications to the OMMP to ensure the monitoring and enforcement of ICs.

Recommendations and Follow-up Actions:

1.) Institutional Controls:
(a) The potentially responsible parties (PRPs) must complete the following activities to assure that effective ICs are implemented, monitored, maintained and enforced: i) accurate mapping of all areas that require land and groundwater restrictions; ii) performing and reviewing title work; iii) proposing an EC under UECA to be recorded, and iv) proposing revisions to the Operation, Maintenance and Monitoring Plan (OMMP) to ensure long-term stewardship such as including mechanisms to ensure regular inspections of ICs at the Site.

(b) An IC Plan will be prepared by U.S. EPA documenting IC activities conducted by the PRPs and necessary follow-up activities. The IC Plan will assure planning for implementation of the EC as per the UECA.

2.) Long-term Stewardship:
Annual certifications and modifications to the OMMP will ensure the proper monitoring and enforcement of ICs.

Protectiveness Statement(s):

This Third Five-Year Review concludes that the remedy currently protects human health and the environment because exposure pathways to contaminated groundwater are being controlled and exposure to contaminated soil at the Site has been addressed by incinerating the most heavily contaminated soils, applying a cover of clean soil, a vegetative cover, and fencing. However, in order for the remedy to be protective in the long term, ICs need to be implemented, compliance with effective ICs must be assured and groundwater cleanup goals attained. Compliance with effective ICs will be ensured through long-term stewardship by maintaining, monitoring, and enforcing effective ICs.

Five-Year Review Report

I. Introduction

The purpose of five-year reviews is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings and conclusions of such reviews are documented in the site-specific Five-Year Review Reports. In addition, Five-Year Review Reports identify issues or deficiencies, if any, found during the review process for the site and provide recommendations to address or correct them.

The U.S. EPA prepared this Five-Year Review pursuant to the Comprehensive Environmental Compensation and Liability Act (CERCLA) § 121 and the National Contingency Plan (NCP). CERCLA § 121 states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with Section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

The U.S. EPA interpreted this requirement further in the NCP; Chapter 40 Code of Federal Regulations (CFR), § 300. 40CFR 300.430(f)(4)(ii) states:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

The U.S. EPA has conducted a Five-Year Review of the remedial actions implemented at the Summit National Superfund Site (SNS), also known as Summit National Liquid Disposal Service facility (SNLD) and as the Deerfield Dump, located in Deerfield, Ohio. The review was conducted for this Site from February 2008 to August 2008 by the U.S. EPA Remedial Project Manager (RPM). This report documents the results of the review. As part of this review, the RPM determined that no additional data collection was necessary to evaluate the current site status, since regular monitoring and data reporting is required by the Operation, Maintenance and Monitoring Plan (OMMP) for the Site.

This is the third Five-Year Review for the SNS Site. The second Five-Year Review Report was submitted by OEPA to U.S. EPA in August 2003, and was finalized on September 22, 2003. The triggering action for that statutory review was the completion of the first Five-Year Review on September 23, 1998. This Five-Year Review is required due to the fact that hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

II. Site Chronology

Table 1: Chronology of Site Events

EVENT	DATE
Site operates as strip mine, coal wash and coal storage facility	Prior to 1974
State of Ohio issues incinerator permit	1974
Facility accepts waste in drums and tank trucks	1974 to 1978
Ohio notifies facility of CWA violations	1976
Ohio issues orders to facility to cease receiving waste and to clean up site	1978
Negotiations for surface cleanup of drums, U.S. EPA removes 7500 gal. C-56	1979 to 1980
Surface cleanup, removal of 17000 drums and tank contents under agreement with Ohio EPA and some of the PRPs	1981 to 1982
Proposed listing to NPL	12/30/82
Preliminary Assessment completed	1/1/83
Final listing on NPL	9/8/83
Combined RI/FS	2/24/84 to 6/30/88
Unilateral Administrative Order	2/15/87
Removal Action	3/26/87 to 5/1 9/88
ROD signed	6/30/88
RD/RA negotiations	11/22/87 to 1/1 0/90
Administrative order on consent	8/17/90
Amended ROD	11/2/90
Effective date of Consent Decree	6/11/91
Sediment removal interim response action	10/91
Pre-Design investigations	10/91 to 12/91
Final Design approved	6/22/93
Construction mobilization	7/22/93
Completed Phase I, II, and III well installation and abandonment	12/30/93
Completed commissioning of groundwater treatment system	5/16/94

EVENT	DATE
Commenced treatment and discharge of groundwater from wet well excavation	6/9/94
Performance demonstration burn for incinerator	9/8/94 to 9/9/94
Completed pipe and media drain installation	9/9/94
Commenced on-site incineration of Site soils	9/28/94
Commenced groundwater hydraulic monitoring	11/7/94
Conducted startup round of groundwater sampling	11/7/94 to 11/1 7/94
Revised inorganic discharge limits for groundwater treatment plant from Ohio EPA	11/22/94
Commenced extraction of groundwater from intermediate unit extraction wells	12/1/94
Completed on-site soil incineration	4/3/95
Shut down extraction wells	5/9/95
Commenced installation of final Site cover	6/1/95
Installed additional monitoring wells, abandoned extraction wells	6/1 9/95 to 7/1 8/95
Pre-final site inspection	7/28/95
Completed final Site cover	8/4/95
Final Site inspection	8/23/95
Preliminary Closeout Report	9/18/95
SNFT submitted Notice of Completion of Remedial Action, Remedial Action Report, and O&M Plan to agencies	11/2/95
First Five-Year Review Site Inspection	07/13/98
Completion of First Five-Year Review	09/23/98
Second Five-Year Review Site Inspection	08/04/03
Completion of Second Five-Year Review	09/22/03
Third Five-Year Review Site Inspection	07/03/08

III. Background

Physical Characteristics

The Summit National Site is located at 1240 Alliance Road in Deerfield Township, Portage County, approximately 45 miles southeast of Cleveland, Ohio. It is a roughly rectangular property at the southeast corner of the intersection of Ohio Route 225 and U.S. Route 224. Prior to the remedial construction, the Site contained the remains of a coal tipple and a scale house in the northwest corner, two dilapidated buildings in the northeast corner, the abandoned incinerator and two small buildings in the southeast corner and two ponds (referred to as the east pond and the west pond) across the center of the property. All of these features were removed during the final cleanup.

Portage County is in the northwestern portion of the glaciated Allegheny Plateau and lies on the divide between the Lake Erie and the Ohio River drainages. The hydrogeology of the Site is complex, the strata at the Site have been characterized as three separate hydro-geologic units: the water table unit (WTU), the upper and lower intermediate units (UIU and LIU) and the Upper Sharon aquifer. The WTU is generally from 5 to 12 feet below grade and flows to the southeast. Groundwater in the UIU flows generally southeastward and in the LIU it flows westward. The Upper Sharon aquifer flows to the north.

Land Use and Resources

Prior to 1974, the 11.5 acre Site was formerly a coal strip mine and contained a coal wash pond and coal stock pile. The Site was used for storage and disposal of industrial waste and incineration of liquid waste from April 1974 until June 1978. The Site is bordered by a skating rink, a school bus storage facility and a residence to the north, a permitted solid waste landfill to the west, an undeveloped brushy wooded area to the east, and a commercial concrete facility and an old unpermitted landfill to the south. The surrounding area is a mix of commercial, agricultural and residential properties.

Approximately 4,500 people live within three miles of the Site. Surface water and shallow groundwater in the vicinity of the Site flow to the southeast, toward the Berlin Lake reservoir, which is a standby water supply for the city of Youngstown.

History of Contamination

During the period from April 1974 through June 1978, the facility, then known as Summit National Liquid Disposal Service facility, accepted liquid wastes including oil, PCBs, resins, sludges, pesticides, and plating wastes.

Some wastes were mixed with flammable liquids and incinerated on-site. Others were stored in above-ground and underground storage tanks, drums or dumped on the ground.

In June 1973, the owner, Mr. Donald Georgeoff, obtained a Permit to Install for an incinerator. In April 1974, the OEPA issued an operating permit for SNLD. In June 1975, the OEPA investigated a complaint of an unauthorized discharge of waste water. At OEPA's request, U.S. EPA conducted an investigation of the Site on October 29, 1976. Evidence of numerous leaks and spills was found. The owner was notified of the need for a Spill Prevention Control Plan and, in December 1976, he was notified that he was in violation of state laws regarding treatment and disposal of industrial wastes. The OEPA Director issued Final

Findings and Orders to the facility on June 12, 1978, requiring it to cease receiving waste materials, remove all liquid waste from the Site, and to receive written approval prior to removing any material from the Site. No further waste was received after that date.

On March 15, 1979, Mr. Georgeoff sold the property to Mr. Angelo Sottanti. On June 28, 1979, Mr. Sottanti sold the property to Mr. John Vasi. The property is still owned by Mr. Vasi.

Initial Response

In August 1979, the State of Ohio filed a complaint against Mr. Georgeoff, Mr. Sottanti and Mr. Vasi alleging the operation of a solid waste disposal facility without a permit, creation of a public nuisance, failure to comply with orders from OEPA and installation of facilities for the storage and disposal of liquid wastes without submitting plans to the agency. After an investigation confirmed the presence of more than 7,500 gallons of hexachlorocyclopentadiene (C-56), U.S. EPA informed Mr. Vasi that remedial action was being planned pursuant to Section 311 of the Clean Water Act (CWA). Mr. Vasi declined to take action or to fund a cleanup, so U.S. EPA funded the cleanup of C-56 waste in September through November 1980.

From early spring to late fall of 1980, the OEPA fenced the Site, graded the surface to control surface water run on and runoff, identified the contents and staged about 2000 drums, characterized the contents of several bulk tanks, and installed two on-site and four off-site monitoring wells.

During 1980 and 1981, some of the companies that had brought waste to the Site identified themselves and voluntarily removed their wastes.

In November 1980, an agreement was reached among the State of Ohio and eight generators that provided $2.5 million for a surface cleanup. The cleanup operation included removal of 17,000 drums, bulk tanks, the concrete pit and its contents, surface debris and a small amount of contaminated soil. The surface cleanup was concluded in June 1982.

During the spring of 1987, the U.S. EPA Region 5 Emergency Response Section responded to an emergency situation involving periodic overflows from the east pond to an adjacent residential property. The response included the removal of a buried tank near the incinerator.

Basis for Taking Action

Hazardous substances and other contaminants that have been released at the Site in each medium include a variety of volatile organic chemicals (VOCs), semivolatile organic chemicals (SVOCs), pesticides, PCBs and inorganic

chemicals (metals). The contaminants are shown below for soils (Table 2), sediments (Table 3), surface water (Table 4) and groundwater (Table 5).

Table 2: Contaminants found in soils

VOCs	SVOCs/ Pesticides / PCBs	Inorganics
Methylene chloride	Phenol	Arsenic
Acetone	1,4-dichlorobenzene	Barium
Carbon disulfide	1,2-dichlorobenzene	Beryllium
1,1-dichloroethene	Isophorone	Chromium
1,1-dichloroethane	1,2,4-trichlorobenzene	Copper
Trans-1,2-dichloroethene	Naphthalene	
1,2-dichloroethane	2-methylnaphthalene	
2-butanone (MEK)	Fluorene	
1,1,1-trichloroethane	Hexachlorobenzene	
Trichloroethene	Phenanthrene	
Benzene	Di-n-butylphthalate	
4-methyl-2-pentanone	Butylbenzylphthalate	
Tetrachloroethene	Bis-2-thylhexylphthalate	
Toluene	Di-n-octylphthalate	
Chlorobenzene	Indeno(1,2,3-c,d)pyrene	
Ethylbenzene	Dibenz(a,h)anthracene	
Xylenes (total)	Benzo(g,h,i)perylene	
	4,4-DDT	
	PCBs (total)	

Table 3: Contaminants found in sediments

VOCs	SVOCs / Pesticides/ PCBs	Inorganics
Methylene chloride	N-nitrosodiphenylamine	Barium
Acetone	Hexachlorobenzene	Chromium
1,1-dichloroethene	Di-n-butylphthalate	Copper
1,1-dichloroethane	Bis-2-ethylhexylphthalate	Mercury
Trans-1,2-dichloroethene	Di-n-octylphthalate	Cyanide
1,2-dichloroethane	PCBs(total)	
1,1,1 -Trichloroethane		
Trichloroethene		
2-butanone		
Toluene		
Benzene		
Ethylbenzene		

VOCs	SVOCs / Pesticides/ PCBs	Inorganics
Chlorobenzene Xylenes (total)		

Table 4: Contaminants found in surface water

VOCs	SVOCs / Pesticides/ PCBs	Inorganics
Methylene chloride Acetone 1,1-dichloroethane 1,2-dichloroethane 2-butanone (MEK) 1,1,1-trichloroethane 4-methyl-2-pentanone Tetrachloroethene Toluene Chlorobenzene Xylenes(total)	*Phenol* Aniline 1,4-dichlorobenzene 1,2-dichlorobenzene Hexachloroethane Isophorone Benzoic acid Bis-2-ethylhexylphthalate Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-c,d)pyrene Dibenz(a,h)anthracene Benzo(g, h, i)perylene	*Arsenic* Barium Beryllium Cadmium Chromium Nickel

Table 5: Contaminants found in groundwater

VOCs	SVOCs / Pesticides/ PCBs	Inorganics
Methylene chloride Acetone 1,1-dichloroethane (DCA) 1,2-dichloroethane 2-butanone 1,1,1 -trichloroethane (TCA) Trichloroethane 4-methyl-2-pentanone Toluene *Ethylbenzene*	4-methylphenol 2,4-dimethylphenol 4-chloro-3-methylphenol Phenol Isophorone Naphthalene 2-methylnaphthalene Bis-2-ethylhexylphthalate Pyrene Dimethylphthalate *Di-n-octylphthalate*	*Aluminum* Arsenic Barium Cadmium Chromium Manganese Nickel Tin Barium

VOCs	SVOCs / Pesticides/ PCBs	Inorganics
1,1 -dichloroethene(DCE) Trans-1,2-dichloroethene Benzene Xylenes (total) Tetrachloroethene (PCE)	Acenaphthalene Dibenzofuran Diethylphthalate Fluorene Hexachlorobenzene Phenanthrene Anthracene Di-n-butylphthalate fluoranthene Butylbenzylphthalate Hexachlorocyclopentadiene	

IV. Remedial Actions

Remedy Selection

A ROD was issued on June 30, 1988, and an amended ROD was issued on November 2, 1990.

The June 1988 ROD selected the following remedy:

- Limiting access and implementing deed restrictions to limit future uses of the Site.
- Monitoring surface water and groundwater.
- Removal of on-site structures and placing debris in an off-site permitted landfill or under the onsite multi-layer cap.
- Excavating and onsite incineration of "hot spot" soils, sediments, buried drums and tanks including their contents.
- Placement of all incinerated material in an on-site RCRA landfill.
- Installation of a multilayer cap over the entire Site; a vertical barrier (slurry wall) around the perimeter of the Site.
- Installation of wells over the Site to extract and treat groundwater on-site.
- Eliminating on-site surface water and treating it along with the groundwater treatment system.

- Rerouting of the southern and eastern ditches to an area off-site.

- Regrading, and revegetating the Site surface.

- Relocating the Watson residence to another area not affected by the Site.

The November 1990 amended ROD called for the following:

- Expansion of Site boundaries to encompass contaminated areas along the perimeters and the south drainage ditch and construction of an eight foot chain link fence around the expanded boundary.

- Excavation and on-site incineration of 24,000 cubic yards of contaminated on-site soils, 4,000 cubic yards of contaminated perimeter sediments, and the contents of an estimated 900 to 1,600 buried drums.

- Demolition of on-site structures for on-site disposal.

- Collection and treatment of surface water from the two on-site ponds and drainage ditches and the sediments from the ponds.

- Extraction of groundwater from the WTU and pipe and media drain system along the southern boundary and extending along the southern ends of the east and west boundaries. Extraction of additional groundwater by extraction wells in the Intermediate Unit.

- Relocation of a vacant residence.

- Testing of incinerated waste material for conformance with OEPA and U.S. EPA standards before placement of the material back on-site as fill before placement of the final cover. If treated soil did not meet standards, it had to be placed in an on-site RCRA cell.

- Regrading and installation of a soil cover over about 10.6 acres of the Site. The cover will consist of an 18-inch loam layer with six inches of topsoil and a vegetative cover.

- Rerouting the south and east drainage ditches to an uncontaminated area beyond the Site.

The major differences between the 1988 ROD and the 1990 ROD are that the 1988 ROD called for an impermeable cap over the Site with an extensive

system of 220 extraction wells along with a slurry wall to provide hydraulic containment and dewatering. The 1990 ROD requires a permeable cover and a passive collection trench, which will allow infiltration and gradual removal of contaminants from the soil and groundwater by the ongoing collection and treatment. The 1990 ROD also included extraction wells but only in the Intermediate Unit.

Remedy Implementation

A Consent Decree (CD) between U.S. EPA, OEPA, and the settling defendants was entered and became effective on June 11, 1991. Pursuant to the CD, the settling defendants formed the Summit National Facility Trust (SNFT) to provide for the performance of the Remedial Design/Remedial Action (RD/RA). Following completion of the RD, the RA was implemented in five phases from June 30, 1993, to August 23, 1995. The Final Site Inspection was conducted on August 23, 1995, the Preliminary Close-Out Report was issued on September 18, 1995, and the Notice of Completion was submitted on November 2, 1995.

The U.S. EPA and OEPA determined that the following RA activities were completed according to the ROD and design specifications:

- Expansion of Site boundaries to include contaminated areas along the perimeters and the south drainage ditch and construction of a chain link fence around the expanded boundary.

- Excavation and on-site incineration of 24,000 cubic yards of contaminated Site soils and 4,000 cubic yards of perimeter sediments.

- Demolition or dismantling of all on-site structures for on-site disposal.

- Collection and treatment of surface water from two on-site ponds and from drainage ditches. Sediments were excavated after dewatering and treated on-site.

- Extraction of groundwater for treatment from the various levels of the water table on-site by the pipe and media drain system along the southern boundary and portions of the east and west boundaries. Additional extraction wells were installed in the Intermediate Unit to augment the passive collection system. The extraction wells were abandoned on May 9, 1995, due to the low permeability of the Intermediate Unit. Treatment of all extracted water was done in the on-site treatment system from 1995 through 2005.

- Removed the vacant residence.

- Ash from the incinerated soil and sediment was tested to ensure compliance with U.S. EPA and OEPA standards and was used as fill to regrade the Site prior to placement of the final cover.

- Regraded the Site and installed a soil cover over 10.6 acres. The cover consisted of 18 inches of loam and six inches of top soil and a vegetative cover.

- Rerouted the south and east drainage ditches to uncontaminated areas off-site.

- The contents of 480 overpacked drums were taken off-site for disposal. This was a change from the planned on-site treatment which was made due to public concern over incineration of the drum contents.

Access rights and restrictions on future use were included in the CD. The CD provided that the U.S EPA, OEPA, the settling defendants and their respective agents have access to the property in order to conduct all necessary activities to implement the remedy.

Institutional Controls

Institutional controls are required to ensure the protectiveness of the remedy. ICs are non-engineered instruments such as administrative and legal controls that help to minimize the potential for exposure to contamination and protect the integrity of the remedy. ICs are required to assure long-term protectiveness for any areas which do not allow for unlimited use and unrestricted exposure.

The June 1988 ROD stated that the remedy goals included limiting access and implementing deed restrictions to limit future uses of the site. Deed restrictions imply that the ICs will be in the form of proprietary controls which run with the land. Compliance with effective ICs will be ensured through long-term stewardship by implementing, maintaining and monitoring effective ICs as well as maintaining the site remedy components. At this time, the initial IC evaluation activities have revealed that additional steps must be taken to ensure long-term protectiveness including implementing effective ICs and ensuring that the ICs are monitored, maintained and enforced. U.S. EPA will request the PRPs to conduct the following activities: 1) accurate mapping of all areas that require land and groundwater restrictions; 2) performing title work; 3) proposing an EC under UECA to be recorded, and 4) proposing revisions to the OMMP to ensure long-term stewardship such as including mechanisms to ensure regular inspections of ICs at the Site. An IC Plan will be prepared by U.S. EPA documenting IC activities conducted by the PRPs and necessary follow-up activities. The IC Plan

will plan for implementation of the EC and long-term stewardship to ensure long-term protectiveness of the remedy.

Evaluation of Current Conditions, Existing ICs, and Planning for Implementing ICs

Section V.D.3 of the June 11, 1991, CD directly imposes on the "Owner Settling Defendant" a prohibition of any activities that would modify, remove, damage, or interfere with the response action. It prohibits any filling, grading, excavating, building, drilling, mining, farming or other development without prior written consent from the U.S. EPA and OEPA. It prohibits extraction, development or use of groundwater or surface water for any purpose. In the event of any future property sale or deed transfer all of the above restrictions shall remain effective. However, although the "Owner Settling Defendant" is bound by these restrictions, he is not required to record those restrictions on the site property until such time as he conveys any interest in the property to someone else (CD; Sections V.D.5 through V.D.7). If the "Owner Settling Defendant" conveys any interest in the site property, the deed, lease, or license transferring such interest must contain the use restrictions delineated above, and those use restrictions must run with the land. Therefore, the CD restricts the owner of the Site from interfering with any aspects of the remedial action, protects the integrity of the soil cap, and prohibits the development or use of the site groundwater for any purpose, unless approved by U.S. EPA and OEPA. U.S. EPA's and OEPA's ability to enforce this CD against the current site owner and the restrictions on site use serve as enforceable ICs in the short term. However, the CD may not give sufficient notice of the land and resource use restrictions to potential purchasers of the site. For this reason, U.S. EPA will seek to implement an EC under the UECA[1]. Ohio enacted the Ohio UECA in 2005, which specifically provides that an owner of property may enter into a restrictive covenant and also be a "holder" of the covenant, with the right to enforce it against a third party even after it sells the property. When implementing ICs, consideration should be given to filing of covenants per the UECA since properly drafted UECA covenants will ensure that the restrictions are enforceable and run with the land to help ensure long-term Site stewardship. The proposed EC will have restrictions similar to the CD restrictions, but it will with more certainty bind future owners of the site from using it inappropriately, and provide a tool for long-term site stewardship. U.S. EPA will also acquire a site title commitment to obtain knowledge about prior recorded real estate interests at the site, in order to ensure the efficacy of the UECA covenant.

[1] Pursuant to CERCLA Section 104(a), 42 U.S.C. Section 9604(a) and Ohio Revised Code Sections 5301.80 to 5301.92.

Table 6: Summary of Institutional Controls for Restricted Areas

Media, Engineered Controls & areas that do not support UU/UE based on current conditions	Objectives of IC	Type of Institutional Control Instrument
Land – On Site	Prohibit any filling, grading, excavating, building, drilling, mining, farming or other development on property within the Site, except for activities required pursuant to the Consent Decree.	Implementation of EC per the UECA planned.
Groundwater – On Site current area that exceeds groundwater cleanup standards	Prohibit groundwater use, extraction, or development until cleanup standards are achieved	Implementation of EC per the UECA planned.
Surface Water – On Site	Prohibit use of surface water within the Site for any purpose	Implementation of EC per the UECA planned.
Other Remedial Action Components	Prohibit Inconsistent Uses and protect the integrity of the remedy components	Will be evaluated. Implementation of EC per the UECA planned.

As part of the IC evaluation activities discussed below, maps will be developed which depict the current conditions of the Site and areas which do not allow for UU/UE.

As previously mentioned, long-term stewardship must be assured. Long-term stewardship includes implementing, maintaining, monitoring, and enforcing effective ICs. To that end, the following IC activities need to be accomplished by the PRPs: title work to confirm ownership and whether prior-in-time encumbrances may interfere with the ICs, preparation of maps (paper and GIS), as well as planning for long-term stewardship including assuring that a monitoring plan is in effect, as discussed below. Also, an EC as per the UECA must be prepared and the Operation and Maintenance (O&M) plan amended for U.S. EPA approval. Once the PRPs complete these tasks, an IC Plan will be developed by U.S. EPA and will include steps necessary to ensure that effective ICs are implemented, monitored, and maintained. The IC Plan will incorporate the results of the IC evaluation activities and plan for additional activities as needed, including planning for IC implementation in the form of an EC and long-term stewardship as discussed below.

Current Compliance: Access to the Site is restricted by a fence. Based on inspections and interviews, U.S. EPA is not aware of site or media uses which

are inconsistent with the stated objectives of the ICs. The remedy appears to be functioning as intended.

Long-Term Stewardship: Long-term protectiveness at the site requires compliance with use restrictions to assure the remedy continues to function as intended. To assure proper maintenance and monitoring of effective ICs, long term stewardship procedures will be reviewed and a plan developed. The plan would include regular inspection of ICs at the site and annual certification to U.S. EPA that ICs are in place and effective. Additionally, use of a communications plan and use of a one-call system should be explored for long-term stewardship.

System Operations/Operation and Maintenance

Operation of the groundwater collection system and on-site treatment of contaminated water was conducted in accordance with the OMMP from November 1995 through August 2005. The implemented remedy and the OMMP are designed to address three major remedial action objectives:

- Protection and enhancement of the quality of the groundwater and recovery of the groundwater resource in the vicinity of the Site.
- Protection of the quality of the surface water in the vicinity of the Site.
- Protection of the public from direct contact with contaminated material on or near the Site, and from migration of surficial contaminants via surface runoff, wind erosion and volatilization.

The primary activities associated with meeting the above objectives include long-term operation, maintenance and monitoring of the groundwater collection/extraction system, groundwater treatment system, treated water discharge system, the site cover, and the fence.

Groundwater treatment plant monitoring consisted of monthly influent and treated effluent sampling and analysis, and recording of daily flow rates. Results were submitted to the OEPA and to U.S. EPA monthly through August 2005.

Groundwater quality monitoring was reported at startup and twice per year for the first five years of operation, and annually through August 2005. It will continue semi-annually until termination criteria have been met. Groundwater hydraulic monitoring was performed monthly for the first year of operation and quarterly through August 2005; the groundwater hydraulic monitoring will also continue semi-annually.

For the first three rounds of groundwater quality monitoring, the samples were analyzed for the full target compound list (TCL) and target analyte list (TAL). A site-specific indicator parameter list (SSIPL) was then developed and approved by OEPA and U.S. EPA. All subsequent samples were analyzed for the SSIPL, except that every fifth year the full TCL/TAL analysis is done. Groundwater monitoring reports are submitted to U.S. EPA and OEPA for each monitoring event. Annual evaluation and progress reports are also submitted to OEPA and U.S. EPA.

V. Progress Since the Last Five-Year Review

The first Five-Year Review was issued on September 23, 1998. The Second Five-Year Review was issued on September 22, 2003. Some minor issues which required corrective actions to be taken were identified in the 2003 Second Five-Year Review, and are identified in Table 7. The remedy was found to be protective in the short-term even though ICs were not in place because there were no inconsistent uses of the Site or exposures and the remedy was functioning as intended, therefore, it was deemed to be protective of human health and the environment.

The remedy continues to function in a way that is protective of human health and the environment, meets ARARs, and is in accordance with the objectives of the 1990 ROD.

Table 7: Actions Taken Since the Last Five-Year Review

Issues from Previous Review	Recommendations/ Follow-up Actions	Party Responsible	Milestone Date	Action Taken and Outcome	Date of Action
Parking lot and access road are overgrown with weeds	Remove weeds, resurface gravel road	SNFT	9/23/04	Weeds were removed and gravel road was resurfaced	ongoing
Paint on some monitoring well risers is peeling and rusting and some labels are obscured	Remove rust, repaint and re-label monitoring well risers	SNFT	9/23/04	Rust was removed and wells were repainted and re-labeled	9/23/04

VI. Five-Year Review Process

Administrative Components

Regan Williams of the OEPA met with representatives of the SNFT on July 3, 2008, to conduct an inspection of the Summit National Site in conjunction with

the Five-Year Review. The Five-Year Review for the Summit National Site was conducted by Pablo N. Valentín of the U.S. EPA, RPM for the Summit National Site.

From February 1 to August 1, 2008, the RPM established a review schedule whose components included:

- Community Involvement;
- Document Review;
- Data Review;
- Site Inspection;
- Local Interviews; and
- Five-Year Review Report Development and Review.

Community Involvement

Activities to involve the community in the five-year review were initiated with a public notice prepared by the U.S. EPA published in the Record-Courier newspaper on February 29, 2008, informing people that a five-year review was to be conducted at the Summit National Site (see Attachment 6). The notice informed members of the public about the initiation of the five-year review process and provided the opportunity to request additional information from U.S. EPA. U.S. EPA received no information requests about the five-year review process.

Document Review

This five-year review consisted of a review of relevant documents including OMMP records and monitoring data. U.S. EPA also reviewed applicable groundwater cleanup standards, as listed in the 1988 ROD and 1990 amended ROD. A comprehensive list of documents reviewed is included as Attachment 3.

Data Review

Monitoring of groundwater contaminant concentrations, hydraulic containment and the groundwater treatment system have been ongoing since November 1994. These data are regularly reported to and reviewed by OEPA and U.S. EPA. For the purpose of this Five-Year Review, groundwater and groundwater treatment data from 1994 through 2008 were reviewed.

Groundwater Monitoring

Groundwater concentrations in downgradient off-site monitoring wells have remained non-detect at MW-4 and MW-113 in the WTU. At MW-114, bis(2-ethylhexyl) phthalate was detected at a concentration of 2.4 micrograms per

liter (µg/l) for the first time. However, bis(2-ethylhexyl) phthalate is a common laboratory contaminant, and continued monitoring will confirm if this contaminant is related to the Site groundwater or to laboratory contamination. The concentrations of SSIPLs detected in the off-site monitoring wells in the WTU are below drinking water standards known as maximum contaminant levels. SSIPL concentrations in on-site monitoring well MW-108 in the WTU continued to show an increase compared to the baseline and the November 2007 sampling events.

SSIPL groundwater concentrations in the UIU in the downgradient off-site monitoring wells were non-detect, with the exception of acetone detected at MW-209 and MW-220. The concentration of acetone detected at MW-209 is within the range of detections of previous sampling events. Acetone was detected in MW-220 at a concentration of 23.5 µg/l. MW-220 has been non-detect for acetone at a method detection limit of 5.0 µg/l in the last four sampling events; however, it had a detection of acetone of 19.7 µg/l in 2005.

Evaluation of the analytical data from the groundwater samples collected in April 2008 from monitoring wells MW-4, MW-11, MW-107, MW-108, MW-111, MW-113, MW-114, MW-115, MW-209, and MW-220 indicated that there is no downward vertical migration of VOCs from the WTU to the UIU. Table 8 shows the results of the most recent groundwater monitoring event.

Table 8: Summary of Groundwater Monitoring Data

Parameter	WTU Monitoring Wells April 2008 All Sample results are in µg/l								
	MW-4	MW-111 Duplicate	MW-11	MW-107	MW-108	MW-111	MW-113	MW-114	MW-115
Bis (2-Ethylhexyl) phthalate	ND (2.0)*	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	2.4	ND (2.0)
1,1,1-trichloroethane	ND (1.0)	43.0	43.1	141	8.5	2.2	ND (1.0)	ND (1.0)	ND (1.0)
1,1-Dichloroethane	ND (1.0)	74.9	75.2	1360	180	33.3	ND (1.0)	ND (1.0)	1.7
1,2-Dichloroethane	ND (1.0)	1.8	1.7	273	75.5	88.3	ND (1.0)	ND (1.0)	0.48J
1,2-Dichloroethene (total)	ND (1.0)	58.5	58.5	360	110	6.7	ND (1.0)	ND (1.0)	4.2
2-Butanone (Methyl Ethyl Ketone)	ND (5.0)	ND (5.0)	ND (5.0)	ND (250)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Acetone	ND (5.0)	ND (5.0)	ND (5.0)	ND (250)	5.7	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Benzene	ND (1.0)	0.73J	0.73 J	104	63.5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloromethane (Methyl Chloride)	ND (1.0)	ND (1.0)	ND (1.0)	ND (50)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Cis-1,2-Dichloroethene	ND (1.0)	56.0	56.0	360	106	6.7	ND (1.0)	ND (1.0)	4.2
Ethylbenzene	ND (1.0)	ND (1.0)	ND (1.0)	1240	0.45J	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Toluene	ND (1.0)	ND (1.0)	ND (1.0)	6810	0.45J	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Trans-1,2-Dichloroethene	ND (1.0)	2.5	2.5	ND (50)	3.8	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Trichloroethene	ND (1.0)	145	147	ND (50)	24.6	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Vinyl Chloride	ND (1.0)	4.4	4.3	93.3	38.7	6.3	ND (1.0)	ND (1.0)	ND (1.0)
Xylene (total)	ND (1.0)	ND (1.0)	ND (1.0)	3990	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)

Parameter	UIU Monitoring Wells April 2008 All Sample results are in µg/l	
	MW-209	MW-220
Bis (2-Ethykhexyl) phthalate	ND (2.0)	ND (2.0)
1,1,1-trichloroethane	ND (1.0)	ND (1.0)
1,1-Dichloroethane	ND (1.0)	ND (1.0)
1,2-Dichloroethane	ND (1.0)	ND (1.0)
1,2-Dichloroethene (total)	ND (1.0)	ND (1.0)
2-Butanone (Methyl Ethyl Ketone)	ND (5.0)	ND (5.0)
Acetone	18.7	23.5
Benzene	ND (1.0)	ND (1.0)
Chloromethane (Methyl chloride)	ND (1.0)	ND (1.0)
Cis-1,2-	ND (1.0)	ND (1.0)
Dichloroethene	ND (1.0)	ND (1.0)
Ethylbenzene	ND (1.0)	ND (1.0)
Toluene	ND (1.0)	ND (1.0)
Trans-1,2-Dichloroethene	ND (1.0)	ND (1.0)
Trichloroethene	ND (1.0)	ND (1.0)
Vinyl Chloride	ND (1.0)	ND (1.0)
Xylene (total)	ND (1.0)	ND (1.0)

* (x) – numbers between parenthesis refer to detection limits

Groundwater Treatment

The groundwater treatment system was in operation from November 1995 through August 2005, and was compliant with the discharge limits established by the OEPA. There were no significant exceedances for any organic or inorganic parameters. In accordance with the reinstatement conditions outlined in the August 2006 Groundwater Monitoring Report (CRA, January 19, 2007) as amended on July 23, 2007, since there is no indication of adverse impact to the off-site groundwater in the WTU or the UIU groundwater units either before any remedial action at the Site, during the 10 years of active groundwater pump and treatment operations, or during the third year of shut down of the groundwater extraction system, the groundwater extraction system will remain off pending the results of the November 2008 groundwater sampling event.

Hydraulic Containment

Review of hydraulic monitoring reports since the startup of the groundwater collection system has shown that hydraulic containment has been consistently maintained. Currently, the hydraulic groundwater monitoring is being performed semi-annually. There is no evidence of off-site migration of contaminants or plume expansion. Groundwater appears to maintain an upward gradient from the UIU and LIU to the WTU. There is no evidence of downward migration of contaminants from the WTU to the UIU, the LIU or to the Upper Sharon aquifer. Current groundwater hydraulic monitoring data demonstrate that the horizontal direction of groundwater flow is generally southeasterly in the WTU as has been consistently observed in the past. The groundwater flow in the UIU bedrock unit appears to be in a generally easterly direction, and is consistent with the pre-shutdown groundwater flow direction in this unit (see figures in Attachment 7).

Site Inspection

The OEPA has assumed the primary oversight role at the Site since 1996. The OEPA Site Coordinator periodically conducts site visits and regularly reviews all monthly, quarterly and annual monitoring reports. The most recent site inspection was conducted on July 3, 2008, specifically for the purpose of the third Five-Year Review. The site inspection began with an interview of the Site Manager. The results of the interview are incorporated into this report and also are reflected in Attachment 4, the Site Inspection Checklist. The inspection covered the entire Site, including the groundwater treatment plant, offices and computer facilities, a walk along the entire Site perimeter and fence, the on-site and off-site monitoring well system, the pipe and media drain and wet well, the east and south drainage ditches, and the treatment plant effluent discharge point. Photographs were taken of all significant site features and are included as Attachment 5.

No significant issues have been identified at any time regarding the groundwater treatment system, the hydraulic containment system, the Site cover or the building. The groundwater treatment system has been shut down since August 2005 to evaluate whether the groundwater plume remains stable without operating the pump and treat system. Based on the groundwater monitoring reports there is no evidence that the plume is moving away from the Site.

There have been no incidences of trespassing, vandalism or other external problems. No complaints from nearby residents have been received by the Site Manager, the OEPA Site Coordinator or the U.S. EPA RPM.

A relatively minor issue was noted during the Site inspection by the Site Manager. On March 2008 a car went through the fence on the northeast corner of the site. Repairs have been made to the fence and the Site is currently completely secured.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

Yes, based on a review of relevant documents, ARARs, risk assumptions, and the results of the Site inspection, the remedy appears to be functioning as intended by the decision documents, and is expected to continue to do so. The contamination left on-site is in soil and in groundwater. No surface water remains on-site, no contaminated sediments remain on-site. The remaining contaminants in soil and groundwater are effectively contained by the remedy and are gradually being reduced. Contaminated soils are covered with 2.5 feet of clean soil and also by a vegetative cover, and the Site is entirely fenced. Even though the required ICs have not been implemented, there are no site or media uses occurring which are incompatible with the objectives of the ICs; therefore, the

remedy is functioning as intended. Implementing and maintaining ICs will be required to assure protectiveness of the remedy and long-term stewardship of the Site. An IC Plan will be developed to ensure that effective ICs are implemented, maintained, monitored, and enforced. Contaminated groundwater is effectively contained within the Site boundaries by the pipe and media drain groundwater collection system and also by the low permeability of the hydro-geologic units. The groundwater treatment plant consistently met the discharge limits established by the OEPA during its operation between 1995 through 2005.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy selection still valid?

No. There have been some changes to toxicity values since the time the remedy was selected, but these changes do not affect the protectiveness of the remedy. The toxicity values that are the basis for the groundwater performance standards have changed over the years; some have increased and some have decreased. A table comparing the current performance standards with projected single chemical standards which might result in new standards to be calculated based on current carcinogenic and non-carcinogenic risk factors is included as Attachment 8. The performance standards for benzene, 1, 2-DCA, PCE, TCE and vinyl chloride would become more stringent, while the standard for chloroethane would actually become less stringent. At this time, however, there does not appear to be any reason to revise the performance standards.

At this time, the groundwater contamination concentrations within the Site boundaries are still well above the original performance standards, and it appears that it will be many years before the concentrations will fall below those standards. The original exposure scenarios used for the Site are still valid.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No, there is no new information that has come to light that could affect the protectiveness of the remedy. The issues identified in the Site inspection do not affect the protectiveness of the remedy.

Technical Assessment Summary

After review of all available data and the results of the Site inspection, the remedy appears to be functioning as intended by the decision documents, as modified by the ESD. There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy. There have been no changes to the standardized risk assessment methodology that would affect the protectiveness of the remedy at this time, although it may be necessary to revisit the risk-based performance standards in the future, when groundwater

concentrations begin to approach the final performance standards. There is no other information that calls into question the protectiveness of the remedy.

There have been some changes in toxicity factors and cancer slope factors since the risk assessment was done and the cleanup standards were developed for groundwater; however, these changes do not affect the protectiveness of the remedy. Contaminated groundwater is contained within the Site boundaries and there is no evidence of off-site groundwater contamination. Movement of the plume is minimal, even within the Site boundaries. The contaminants are essentially not moving. The organic contaminants were not even reaching the collection trench during the system operation which took place from 1995 through 2005 and did not show up in the influent to the groundwater treatment plant during its operation through 2005.

VIII. Issues

The following issues were identified for the Site during this Five-Year Review:

1.) Institutional Controls: Effective ICs must be implemented, monitored, maintained and enforced to assure that the remedy is functioning as intended with regard to the ICs. Once preliminary IC activities are completed, U.S. EPA will seek to have an Environmental Covenant (EC) under Ohio's version of the Uniform Environmental Covenants Act (UECA) recorded in the chain of title for the Site.

2.) Long-term Stewardship: Long-term stewardship needs to be assured for the Site. This will be provided by annual certifications that current Site use is compatible with the restrictions set forth in the EC, and modifications to the OMMP to ensure the monitoring and enforcement of ICs.

IX. Recommendations and Follow-Up Actions

This five-year review has summarized the remedial activities and current O&M activities at the Summit National Site. Long-term stewardship must be assured which includes implementing, maintaining and monitoring effective ICs. The following actions should be considered for continued O&M and optimization of the implemented remedy:

Table 9: Recommendations/ Follow Up Actions

Recommendations/ Follow-up Actions	Responsible Party	Oversight	Milestone	Affects Protectiveness (Y/N) Current/ Future
Institutional Controls: (a) The PRPs must complete the following activities to assure that effective ICs are implemented, monitored, maintained and enforced: i) accurate mapping of all areas that require land and groundwater restrictions; ii) performing and reviewing title work; iii) proposing an EC under UECA to be recorded, and iv) proposing revisions to the OMMP to ensure long-term stewardship such as including mechanisms to ensure regular inspections of ICs at the Site.	PRPs	U.S. EPA	March 2009	Current – No Future – Yes
(b) An IC Plan will be prepared by U.S. EPA documenting IC activities conducted by the PRPs and necessary follow-up activities. The IC Plan will assure planning for implementation of the EC as per the UECA.	U.S. EPA	U.S. EPA	September 2009	Current – No Future – Yes
Long-term Stewardship: Annual certifications and modifications to the OMMP will ensure the proper monitoring and enforcement of ICs.	U.S. EPA	U.S. EPA	December 2009	Current – No Future - Yes

X. Protectiveness Statement

This Third Five-Year Review concludes that the remedy currently protects human health and the environment because exposure pathways to contaminated groundwater are being controlled and exposure to contaminated soil at the Site has been addressed by incinerating the most heavily contaminated soils, applying a cover of clean soil, a vegetative cover, and fencing. However, in order for the remedy to be protective in the long term, ICs need to be implemented, compliance with effective ICs must be assured and groundwater cleanup goals attained. Compliance with effective ICs will be ensured through long-term stewardship by maintaining, monitoring, and enforcing effective ICs.

XI. Next Review

The next five-year review for the Summit National Site is required within five years of the signature date of this review.

ATTACHMENT 1
SITE LOCATION MAP

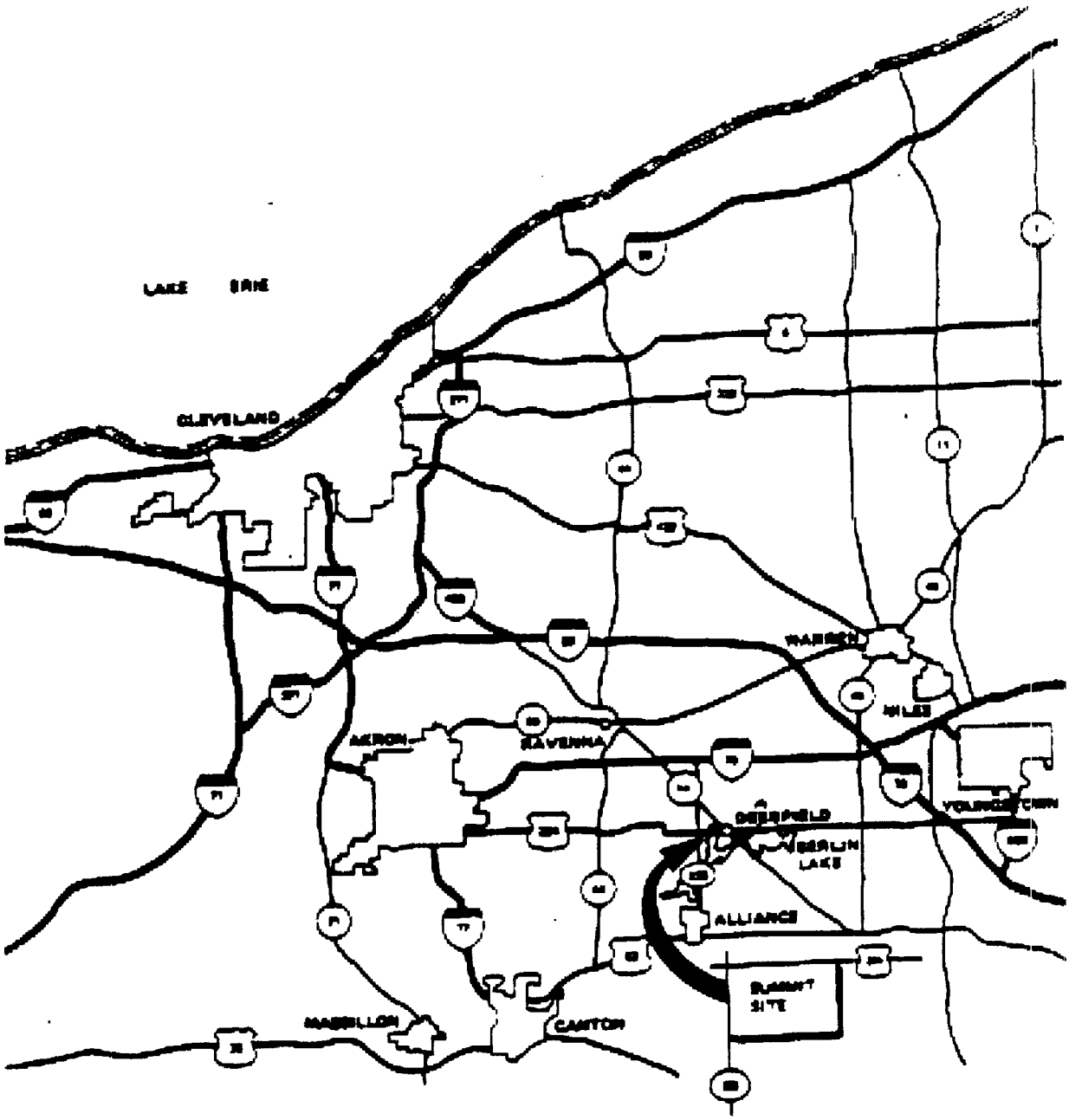
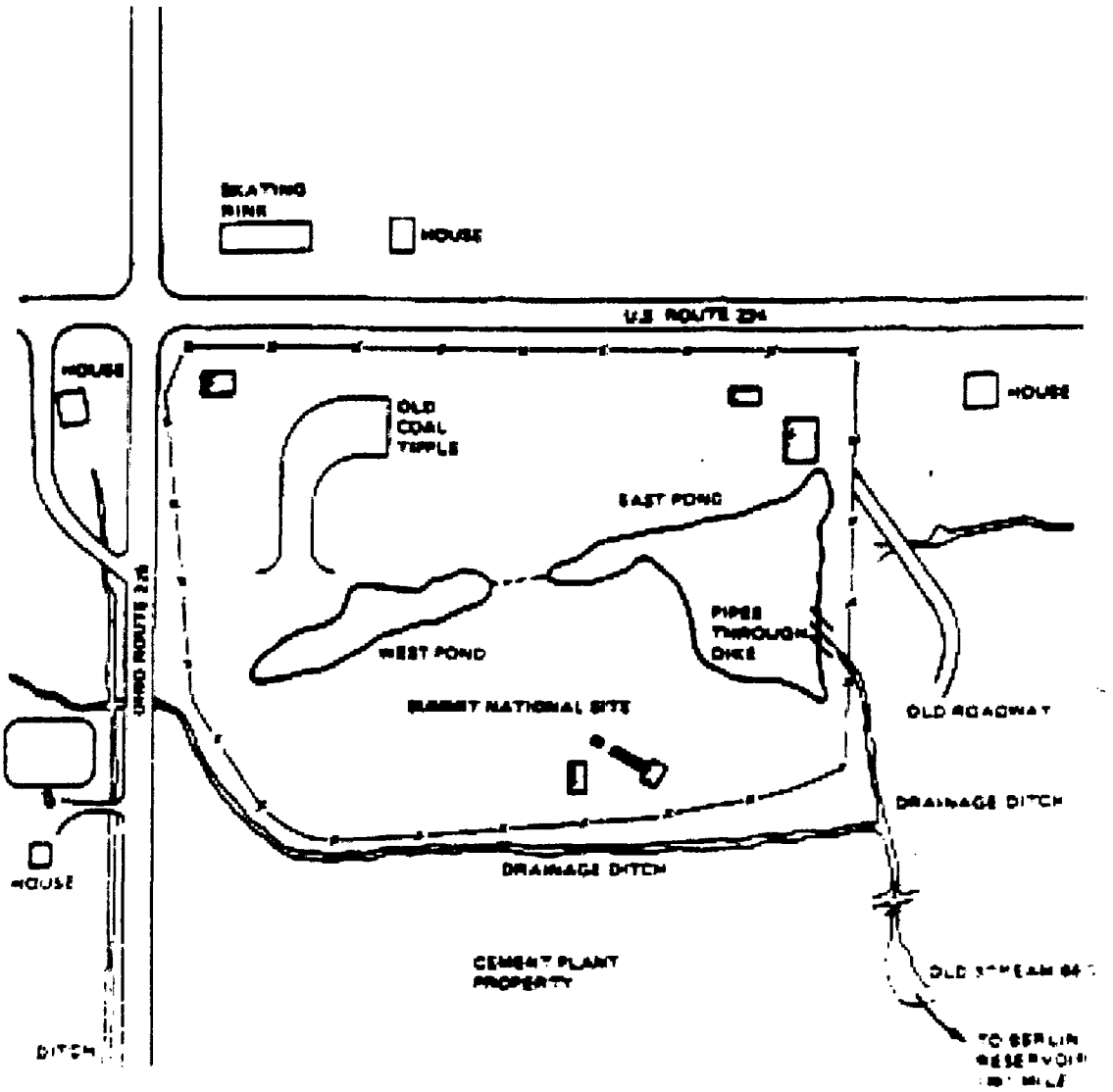


FIGURE 1-
SUMMIT SITE LOCATION
SUMMIT NATIONAL, OH

ATTACHMENT 2
DRAWINGS OF SITE FEATURES



NOTE ALL LOCATIONS OF STRUCTURES AND PHYSICAL FEATURES APPROXIMATE

SOURCE MODIFIED FROM USGS

FIGURE E-
SITE MAP
SUMMIT NATIONAL PIT

Institutional Control (IC) Review
Site Base Map

Superfund
U.S. Environmental Protection Agency

Summit National
Portage County, OH

OHD980609994

Legend
Summit National Site

0 500 1,000 Feet

N

GEOS

RPM: Pablo Valentin

Produced by Sarah Backhouse
U.S. EPA Region 5 on 6/13/07
Image Date: 2005

ATTACHMENT 3
DOCUMENTS REVIEWED

CH2M Hill; 1988 -**Feasibility Study Report - Summit National Superfund Site** - February 10, 1988

CH2M Hill; 1988 - **Remedial Investigation Report - Summit National Superfund Site** – January 11, 1988

Conestoga-Rovers & Associates; 1994 through 2008 - **Annual Progress Reports- Summit National Superfund Site**

Conestoga-Rovers& Associates; 1993 - **Final Design Report- Summit National Superfund Site** - May 27, 1993

Conestoga-Rovers & Associates; 1994 through 2008 - **Groundwater Monitoring Reports- Summit National Superfund Site**

Conestoga-Rovers & Associates; 1994 through 2008 - **Hydraulic Monitoring Reports- Summit National Superfund Site**

Conestoga-Rovers & Associates; 1999 - **Interim Evaluation of Remedial Action- Summit National Superfund Site** - March 4, 1999

Conestoga-Rovers & Associates; 1995 - **Operation, Maintenance and Monitoring Plan- Summit National Superfund Site** - November 3, 1995

Conestoga-Rovers & Associates; 1995 - **Remedial Action Report- Summit National Superfund Site** - October 31, 1995

Ohio EPA; 1998 - **Five Year Review Report- Summit National Superfund Site** – October 21, 1998

Ohio EPA; 1998 – **Second Five Year Review Report- Summit National Superfund Site** – September 22, 2003

Ohio EPA; 1994 - **Substantive Permit to Discharge- Summit National Superfund Site** – May 18, 1994

Summit National Facility Trust; 1994 through 2008 - **Monthly Effluent Reports for the Groundwater Treatment Plant- Summit National Superfund Site**

United States Environmental Protection Agency (USEPA); 2001 - **Comprehensive Five-Year Review Guidance, June 2001** - Office of Solid Waste and Emergency Response (OSWER) Directive 9355.7-03B-P

United States Environmental Agency; 1988 - **EPA Superfund Record of Decision: Summit National** - June 30, 1988

United States Environmental Protection Agency; 1990 - **EPA Superfund Record of Decision: Summit National** - November 2, 1990

United States Environmental Protection Agency; 1992 - **Explanation of Significant Difference Summit National Superfund Site** - March 23, 1992

Consent Decree (Civil Action number C81-1961) - Summit National Superfund Site - June 11, 1991

ATTACHMENT 4
SITE INSPECTION CHECKLIST

Please note that "O&M" is referred to throughout this checklist. At sites where Long-Term Response Actions are in progress, O&M activities may be referred to as "system operations" since these sites are not considered to be in the O&M phase while being remediated under the Superfund program.

Five-Year Review Site Inspection Checklist (Template)

(Working document for site inspection. Information may be completed by hand and attached to the Five-Year Review report as supporting documentation of site status. "N/A" refers to "not applicable.")

I. SITE INFORMATION	
Site name: Summit National	**Date of inspection:** July 3, 2008
Location and Region: Deerfield, OH, Region 5	**EPA ID:**
Agency, office, or company leading the five-year review:	**Weather/temperature:** Cloudy, rain, 75°F

Remedy Includes: (Check all that apply)

- Landfill cover/containment
- (Access controls)
- (Institutional controls)
- (Groundwater pump and treatment)
- Surface water collection and treatment
- Other _____
- Monitored natural attenuation
- (Groundwater containment)
- Vertical barrier walls

Attachments: Inspection team roster attached Site map attached

II. INTERVIEWS (Check all that apply)

SNFT

Shaw Consultant

1/email

1. **O&M site manager** Joe Montello (Name) Hydrogeologist (Title) 7/3/08 (Date)
   Interviewed (at site) at office by phone Phone no. _____
   Problems, suggestions; Report attached _____

2. **O&M staff** _____ (Name) _____ (Title) _____ (Date)
   Interviewed at site at office by phone Phone no. _____
   Problems, suggestions; Report attached _____

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Ohio EPA

Agency Ohio EPA
Contact Regan S. Williams — Environmental Specialist — 7/3/08 — 330 963 1210
Name — Title — Date — Phone no.
Problems; suggestions; Report attached _____

Agency _____
Contact _____ — _____ — _____ — _____
Name — Title — Date — Phone no.
Problems; suggestions; Report attached _____

Agency _____
Contact _____ — _____ — _____ — _____
Name — Title — Date — Phone no.
Problems; suggestions; Report attached _____

Agency _____
Contact _____ — _____ — _____ — _____
Name — Title — Date — Phone no.
Problems; suggestions; Report attached _____

4. **Other interviews** (optional) Report attached.

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1.	**O&M Documents**			
	O&M manual	Readily available	Up to date	N/A
	As-built drawings	Readily available	Up to date	N/A
	Maintenance logs	Readily available	Up to date	N/A
	Remarks			
2.	**Site-Specific Health and Safety Plan**	Readily available	Up to date	N/A
	Contingency plan/emergency response plan	Readily available	Up to date	N/A
	Remarks			
3.	**O&M and OSHA Training Records**	Readily available	Up to date	N/A
	Remarks			
4.	**Permits and Service Agreements**			
	Air discharge permit	Readily available	Up to date	N/A
	Effluent discharge	Readily available	Up to date	N/A
	Waste disposal, POTW – Septic	Readily available	Up to date	N/A
	Other permits _____	Readily available	Up to date	N/A
	Remarks			
5.	**Gas Generation Records**	Readily available	Up to date	N/A
	Remarks			
6.	**Settlement Monument Records**	Readily available	Up to date	N/A
	Remarks			
7.	**Groundwater Monitoring Records**	Readily available	Up to date	N/A
	Remarks			
8.	**Leachate Extraction Records**	Readily available	Up to date	N/A
	Remarks			
9.	**Discharge Compliance Records**			
	Air	Readily available	Up to date	N/A
	Water (effluent)	Readily available	Up to date	N/A
	Remarks			
10.	**Daily Access/Security Logs**	Readily available	Up to date	N/A
	Remarks			

IV. O&M COSTS

1. **O&M Organization**

State in-house — Contractor for State
PRP in-house — Contractor for PRP
Federal Facility in-house — Contractor for Federal Facility
Other _____

2. **O&M Cost Records**

Readily available — Up to date
Funding mechanism/agreement in place
Original O&M cost estimate _____ Breakdown attached

Total annual cost by year for review period if available

From _____ To _____ _____ Breakdown attached
Date Date Total cost

From _____ To _____ _____ Breakdown attached
Date Date Total cost

From _____ To _____ _____ Breakdown attached
Date Date Total cost

From _____ To _____ _____ Breakdown attached
Date Date Total cost

From _____ To _____ _____ Breakdown attached
Date Date Total cost

3. **Unanticipated or Unusually High O&M Costs During Review Period**

Describe costs and reasons: _____

V. ACCESS AND INSTITUTIONAL CONTROLS — Applicable N/A

A. Fencing

1. **Fencing damaged** — Location shown on site map — Gates secured — N/A

Remarks Car went through fence - March 2007
North west corner - repairs made

B. Other Access Restrictions

1. **Signs and other security measures** — Location shown on site map — N/A

Remarks Signs on fence + gate

OSWER No. 9355.7-03B-P

C. Institutional Controls (ICs)

1. **Implementation and enforcement**
Site conditions imply ICs not properly implemented — Yes (No) N/A
Site conditions imply ICs not being fully enforced — Yes (No) N/A

Type of monitoring (*e.g.*, self-reporting, drive by) drive by
Frequency annual at minimum
Responsible party/agency Ohio EPA
Contact Rigan Williams Site Coordinator ____ 330-963-6716
Name Title Date Phone no.

Reporting is up-to-date — (Yes) No N/A
Reports are verified by the lead agency — (Yes) No N/A

Specific requirements in deed or decision documents have been met — (Yes) No N/A
Violations have been reported — Yes (No) N/A
Other problems or suggestions: Report attached

2. **Adequacy** (ICs are adequate) ICs are inadequate N/A
Remarks

D. General

1. **Vandalism/trespassing** Location shown on site map (No vandalism evident)
Remarks

2. **Land use changes on site** (N/A)
Remarks

3. **Land use changes off site** (N/A)
Remarks

VI. GENERAL SITE CONDITIONS

A. Roads Applicable N/A

1. **Roads damaged** Location shown on site map (Roads adequate) N/A
Remarks

OSWER No. 9355.7-03B-P

B. Other Site Conditions

Remarks Treatment System Inactive

VII. LANDFILL COVERS Applicable (N/A)

A. Landfill Surface — not a landfill - permeable vegetated cover

1. **Settlement** (Low spots) Location shown on site map (Settlement not evident)
   Areal extent_____ Depth_____
   Remarks_____

2. **Cracks** Location shown on site map (Cracking not evident)
   Lengths_____ Widths_____ Depths_____
   Remarks_____

3. **Erosion** Location shown on site map (Erosion not evident)
   Areal extent_____ Depth_____
   Remarks_____

4. **Holes** Location shown on site map (Holes not evident)
   Areal extent_____ Depth_____
   Remarks_____

5. **Vegetative Cover** (Grass) (Cover properly established) (No signs of stress)
   Trees/Shrubs (indicate size and locations on a diagram)
   Remarks_____

6. **Alternative Cover (armored rock, concrete, etc.)** (N/A)
   Remarks_____

7. **Bulges** Location shown on site map (Bulges not evident)
   Areal extent_____ Height_____
   Remarks_____

8.	**Wet Areas/Water Damage**	Wet areas/water damage not evident	
	Wet areas	Location shown on site map	Areal extent_____
	Ponding	Location shown on site map	Areal extent_____
	Seeps	Location shown on site map	Areal extent_____
	Soft subgrade	Location shown on site map	Areal extent_____
	Remarks_____		
9.	**Slope Instability** Slides	Location shown on site map	No evidence of slope instability
	Areal extent_____		
	Remarks_____		

NA

B. Benches Applicable N/A

(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

1.	**Flows Bypass Bench**	Location shown on site map	N/A or okay
	Remarks_____		
2.	**Bench Breached**	Location shown on site map	N/A or okay
	Remarks_____		
3.	**Bench Overtopped**	Location shown on site map	N/A or okay
	Remarks_____		

C. Letdown Channels Applicable N/A

(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

1.	**Settlement**	Location shown on site map	No evidence of settlement
	Areal extent_____	Depth_____	
	Remarks_____		
2.	**Material Degradation**	Location shown on site map	No evidence of degradation
	Material type_____	Areal extent_____	
	Remarks_____		
3.	**Erosion**	Location shown on site map	No evidence of erosion
	Areal extent_____	Depth_____	
	Remarks_____		

4. **Undercutting** Location shown on site map No evidence of undercutting
Areal extent______ Depth______
Remarks______

NA

5. **Obstructions** Type______ No obstructions
Location shown on site map Areal extent______
Size______
Remarks______

NA

6. **Excessive Vegetative Growth** Type______
No evidence of excessive growth
Vegetation in channels does not obstruct flow
Location shown on site map Areal extent______
Remarks______

D. Cover Penetrations Applicable N/A

1. **Gas Vents** Active Passive
Properly secured/locked Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs Maintenance
N/A
Remarks______

2. **Gas Monitoring Probes**
Properly secured/locked Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs Maintenance N/A
Remarks______

3. **Monitoring Wells** (within surface area of landfill)
Properly secured/locked Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs Maintenance N/A
Remarks______

4. **Leachate Extraction Wells**
Properly secured/locked Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs Maintenance N/A
Remarks______

5. **Settlement Monuments** Located Routinely surveyed N/A
Remarks______

E. Gas Collection and Treatment Applicable (N/A)

1. **Gas Treatment Facilities**
   Flaring Thermal destruction Collection for reuse
   Good condition Needs Maintenance
   Remarks_____

2. **Gas Collection Wells, Manifolds and Piping**
   Good condition Needs Maintenance
   Remarks_____

3. **Gas Monitoring Facilities** (*e.g.*, gas monitoring of adjacent homes or buildings)
   Good condition Needs Maintenance N/A
   Remarks_____

F. Cover Drainage Layer Applicable (N/A)

1. **Outlet Pipes Inspected** Functioning N/A
   Remarks_____

2. **Outlet Rock Inspected** Functioning N/A
   Remarks_____

G. Detention/Sedimentation Ponds Applicable (N/A)

1. **Siltation** Areal extent_____ Depth_____ N/A
   Siltation not evident
   Remarks_____

2. **Erosion** Areal extent_____ Depth_____
   Erosion not evident
   Remarks_____

3. **Outlet Works** Functioning N/A
   Remarks_____

4. **Dam** Functioning N/A
   Remarks_____

H. Retaining Walls Applicable (N/A)

1. **Deformations** Location shown on site map Deformation not evident
   Horizontal displacement_____ Vertical displacement_____
   Rotational displacement_____
   Remarks_____

2. **Degradation** Location shown on site map Degradation not evident
   Remarks_____

I. Perimeter Ditches/Off-Site Discharge (Applicable) N/A

1. **Siltation** Location shown on site map (Siltation not evident)
   Areal extent_____ Depth_____
   Remarks_____

2. **Vegetative Growth** Location shown on site map N/A
   (Vegetation does not impede flow)
   Areal extent_____ Type_____
   Remarks_____

3. **Erosion** Location shown on site map (Erosion not evident)
   Areal extent_____ Depth_____
   Remarks_____

4. **Discharge Structure** (Functioning) N/A
   Remarks_____

VIII. VERTICAL BARRIER WALLS Applicable (N/A)

1. **Settlement** Location shown on site map Settlement not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Performance Monitoring** Type of monitoring_____
   Performance not monitored
   Frequency_____ Evidence of breaching
   Head differential_____
   Remarks_____

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IX. GROUNDWATER/SURFACE WATER REMEDIES	Applicable	N/A

A. Groundwater Extraction Wells, Pumps, and Pipelines Applicable N/A

1. **Pumps, Wellhead Plumbing, and Electrical**
   (Good condition) All required wells properly operating Needs Maintenance N/A
   Remarks Currently inactivated

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
   Good condition Needs Maintenance
   Remarks no longer in use - deactivated

3. **Spare Parts and Equipment**
   (Readily available) Good condition Requires upgrade Needs to be provided
   Remarks

B. Surface Water Collection Structures, Pumps, and Pipelines Applicable (N/A)

1. **Collection Structures, Pumps, and Electrical**
   Good condition Needs Maintenance
   Remarks

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
   Good condition Needs Maintenance
   Remarks

3. **Spare Parts and Equipment**
   Readily available Good condition Requires upgrade Needs to be provided
   Remarks

C. Treatment System Applicable N/A

1. **Treatment Train** (Check components that apply)
   - (Metals removal) Oil/water separation Bioremediation
   - (Air stripping) Carbon adsorbers
   - Filters GAC, sand, bag filter
   - Additive (e.g., chelation agent, flocculent)
   - Others Parallel plate Separator - polymer
   - (Good condition) Needs Maintenance
   - Sampling ports properly marked and functional
   - Sampling/maintenance log displayed and up to date
   - Equipment properly identified
   - Quantity of groundwater treated annually 10,000,000 gal/year when operating
   - Quantity of surface water treated annually NA
   - Remarks System is shut down

no pumping in 2005-2006

2. **Electrical Enclosures and Panels** (properly rated and functional)
   - N/A (Good condition) Needs Maintenance
   - Remarks

3. **Tanks, Vaults, Storage Vessels**
   - N/A (Good condition) Proper secondary containment Needs Maintenance
   - Remarks

4. **Discharge Structure and Appurtenances**
   - N/A (Good condition) Needs Maintenance
   - Remarks

5. **Treatment Building(s)**
   - N/A (Good condition (esp. roof and doorways) Needs repair
   - Chemicals and equipment properly stored
   - Remarks

6. **Monitoring Wells** (pump and treatment remedy)
   - (Properly secured/locked) (Functioning) (Routinely sampled) (Good condition)
   - (All required wells located) Needs Maintenance N/A
   - Remarks

D. Monitoring Data

1. Monitoring Data
   - (Is routinely submitted on time) (Is of acceptable quality)

2. Monitoring data suggests:
   - (Groundwater plume is effectively contained) Contaminant concentrations are declining - Stable

D. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)
   Properly secured/locked Functioning Routinely sampled Good condition
   All required wells located Needs Maintenance N/A
   Remarks

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

Remedy appears to be functioning effectively to contain groundwater contamination within the site boundaries. The system is currently shut down to evaluate whether the plume remains stable without operating the pump and treat system.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

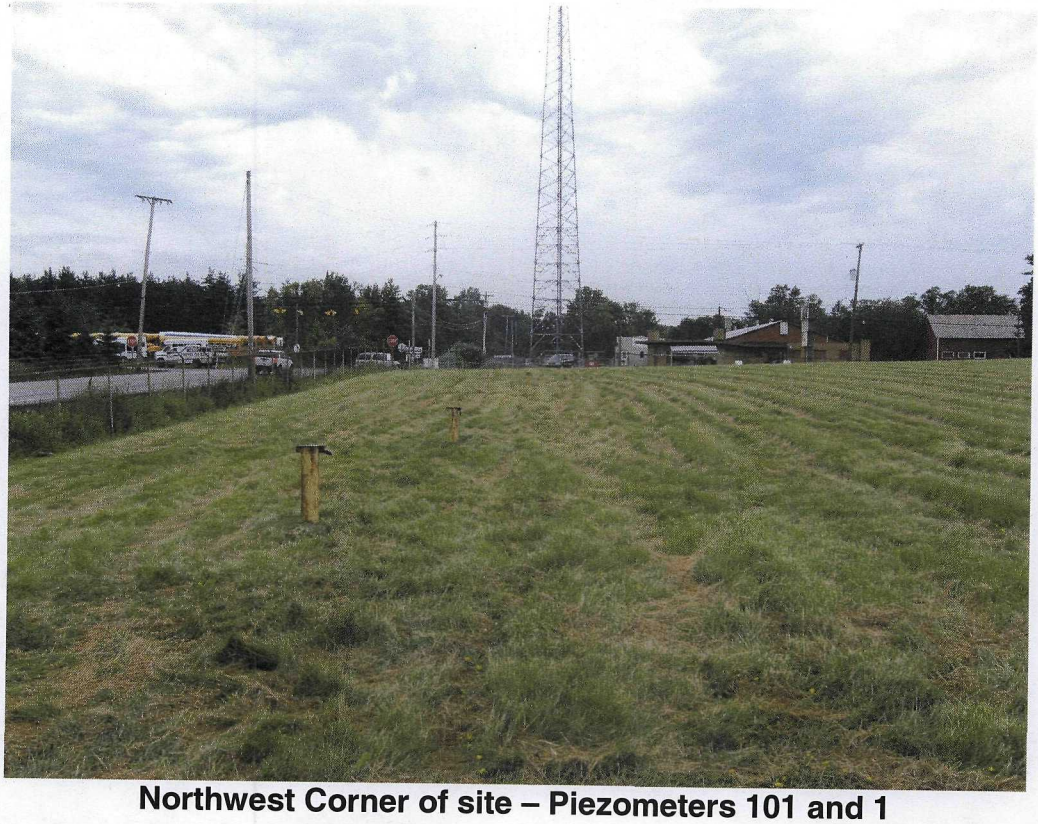
O&M program is adequate to continue to demonstrate protectiveness of the remedy.

C.	Early Indicators of Potential Remedy Problems
	Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future. None
D.	Opportunities for Optimization
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. O&M is adequate

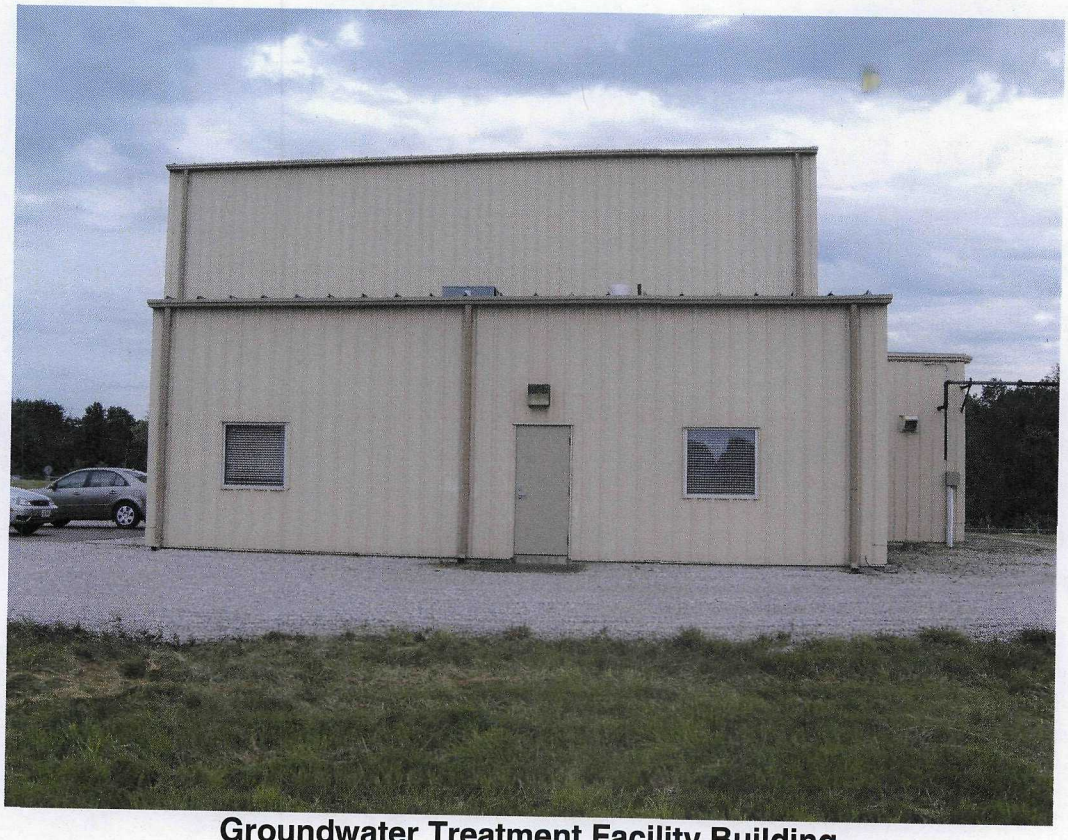
ATTACHMENT 5
PHOTOGRAPHS DOCUMENTING SITE CONDITIONS

Looking east – Manhole 8

Monitoring wells



Northwest Corner of site – Piezometers 101 and 1



Groundwater Treatment Facility Building

Off Site Monitoring Well

Manhole 7 east side

Site Gate

Manhole 6 and Monitoring Wells 224 and 324 - South east corner of the site

ATTACHMENT 6
NEWSPAPER AD

There are about 200 tickets left for the Dave Nethken Benefit Drawing.

The raffle is being held to defray medical expenses incurred by the Nethken family of Ravenna Township.

The winner of the raffle will receive two 2006 Yamaha Kodiak 4x4 ATVs, along with the trailer, snow blade and
including
The dr
be annou
tickets ar
tively the
held aroun
April.
The win
present to
Tickets

EPA to Review
Summit National Superfund Site
Deerfield, Ohio

U.S. Environmental Protection Agency is conducting a status review of the Summit National Superfund site, Deerfield, Ohio. The Superfund law requires regular reviews of sites (at least every five years) where the cleanup is complete but hazardous waste remains managed on-site. These reviews are done to ensure that the cleanup continues to protect human health and the environment.

The review will include:

- An evaluation of background information.
- Cleanup requirements.
- Effectiveness of the cleanup and any anticipated future actions.
- Ways for EPA to operate more efficiently.

EPA selected several actions for the site in 1990:

- Excavation and on-site incineration of contaminated soil, sediment, and the contents of several hundred buried drums.
- On-site treatment of contaminated ground water.
- Extraction and treatment of on-site surface water.
- Fencing.
- A clean soil and vegetative cover over the site.

This is the third five-year review for Summit National. The previous review in 2003 concluded that institutional controls, such as land and ground-water use restrictions, along with regular monitoring be added to ensure that contaminated soil and ground water continue to be addressed.

The first five-year review was done in 1998.

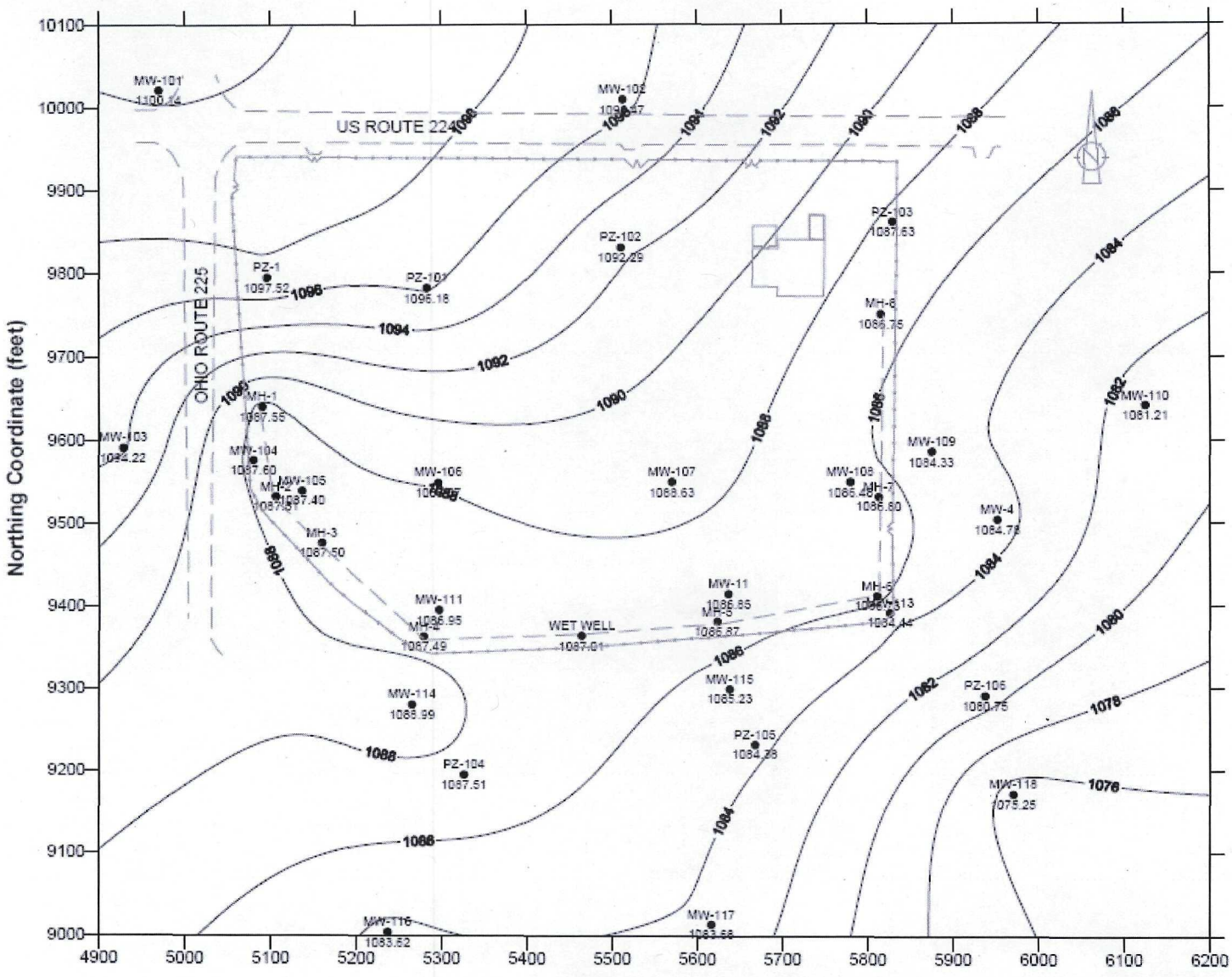
A five-year-review report, which will be available this September, will detail the site's progress.

Further information can be obtained by contacting:

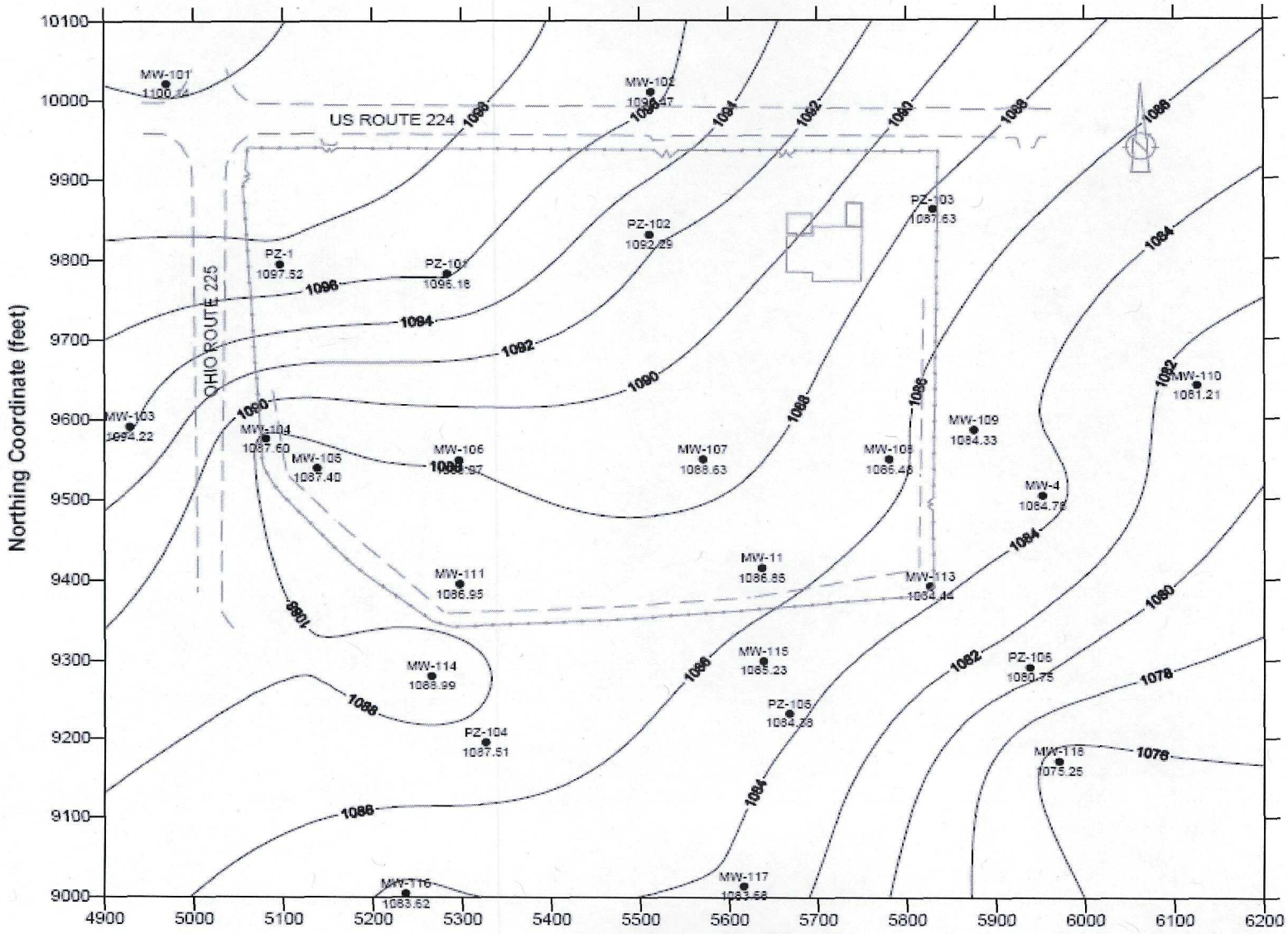
Susan Pastor
EPA Community Involvement Coordinator
(800) 621-8431 Ext. 31325, weekdays 10 a.m. – 5:30 p.m.
pastor.susan@epa.gov

Site-related documents are available for review at:
Reed Memorial Library, 167 E. Main St., Ravenna

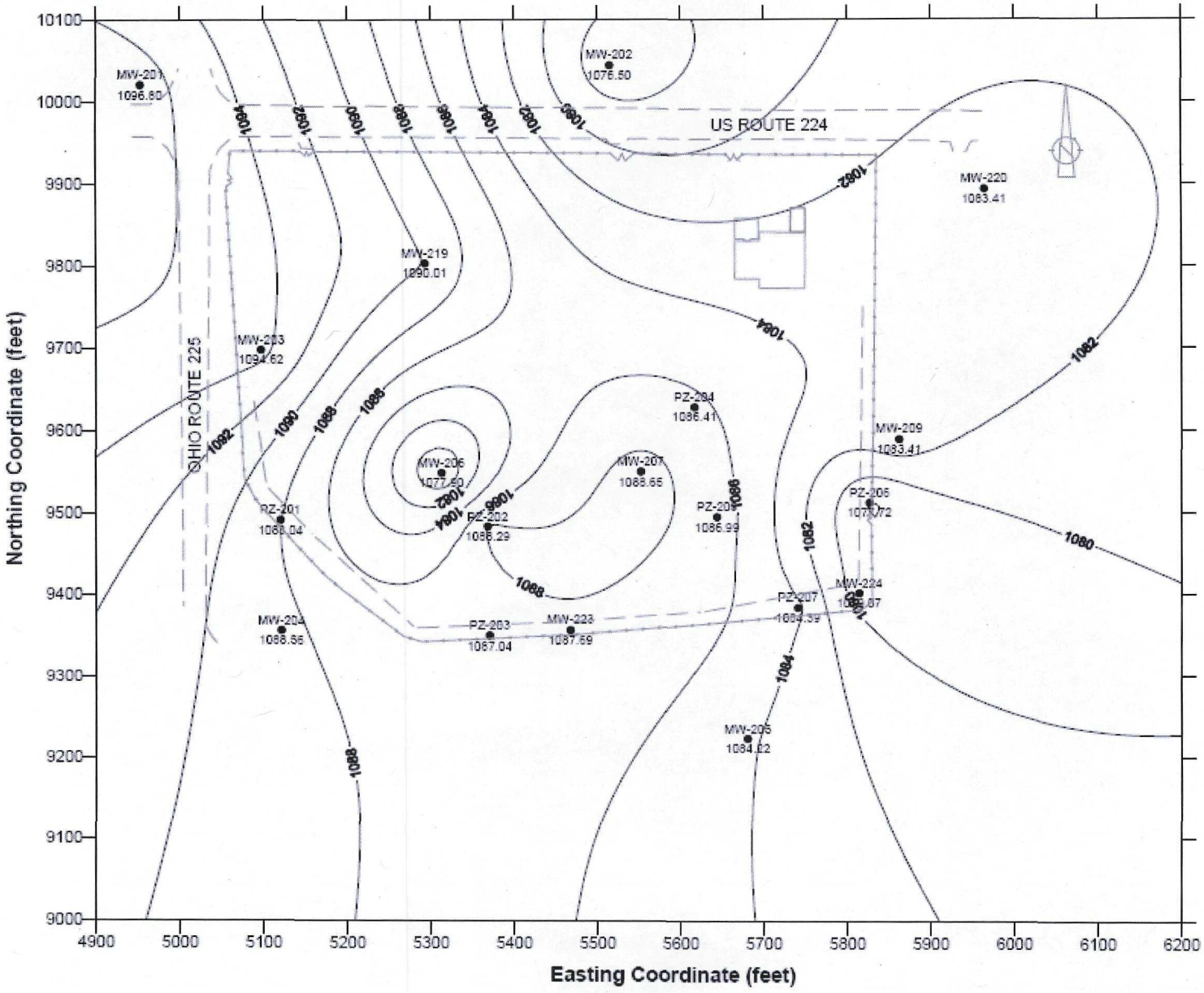
ATTACHMENT 7
Figures of Site Groundwater Contours from April 2008 Hydraulic Monitoring



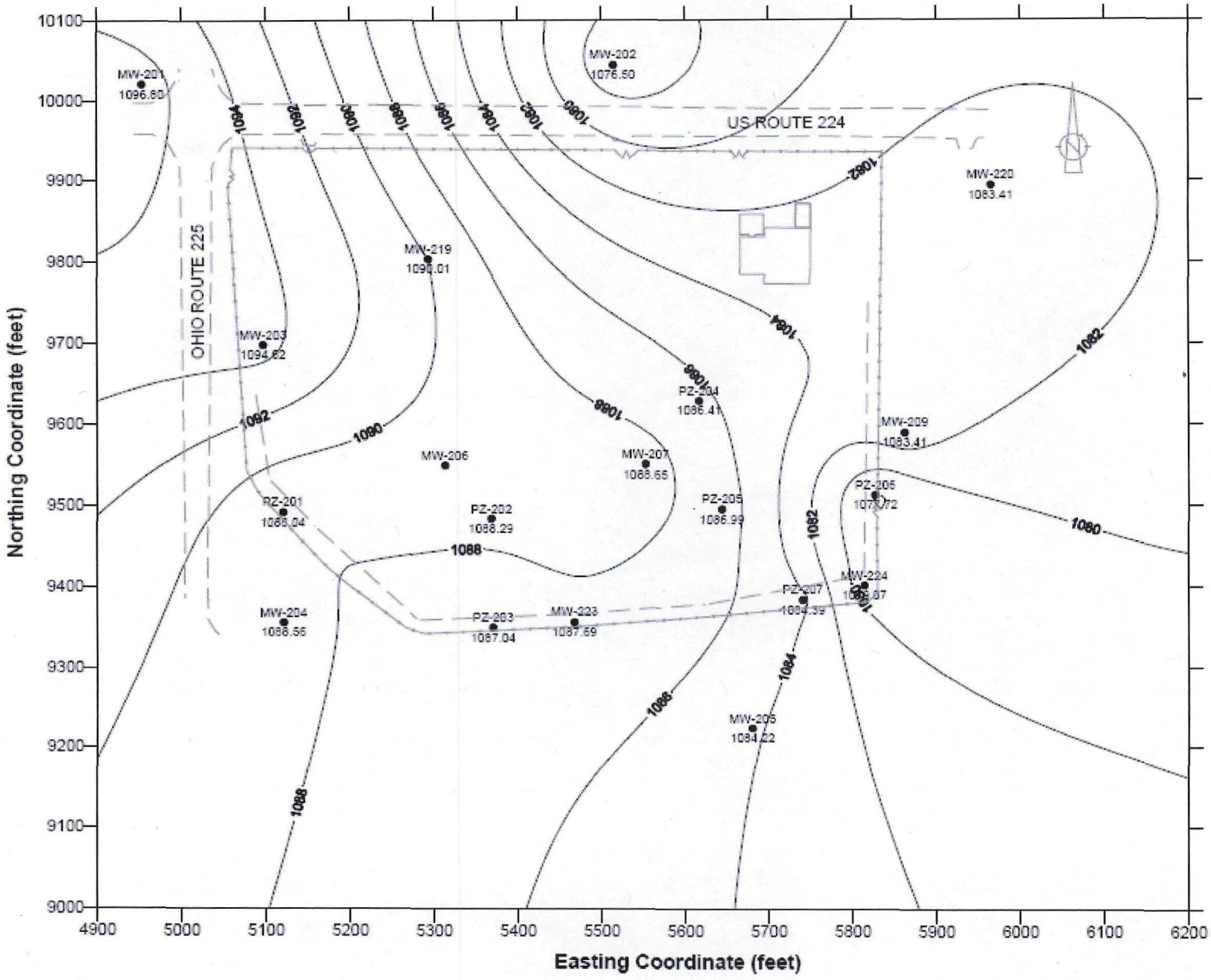
GROUNDWATER CONTOURS
WATER TABLE UNIT -- APRIL 15, 2008
SUMMIT NATIONAL SUPERFUND SITE



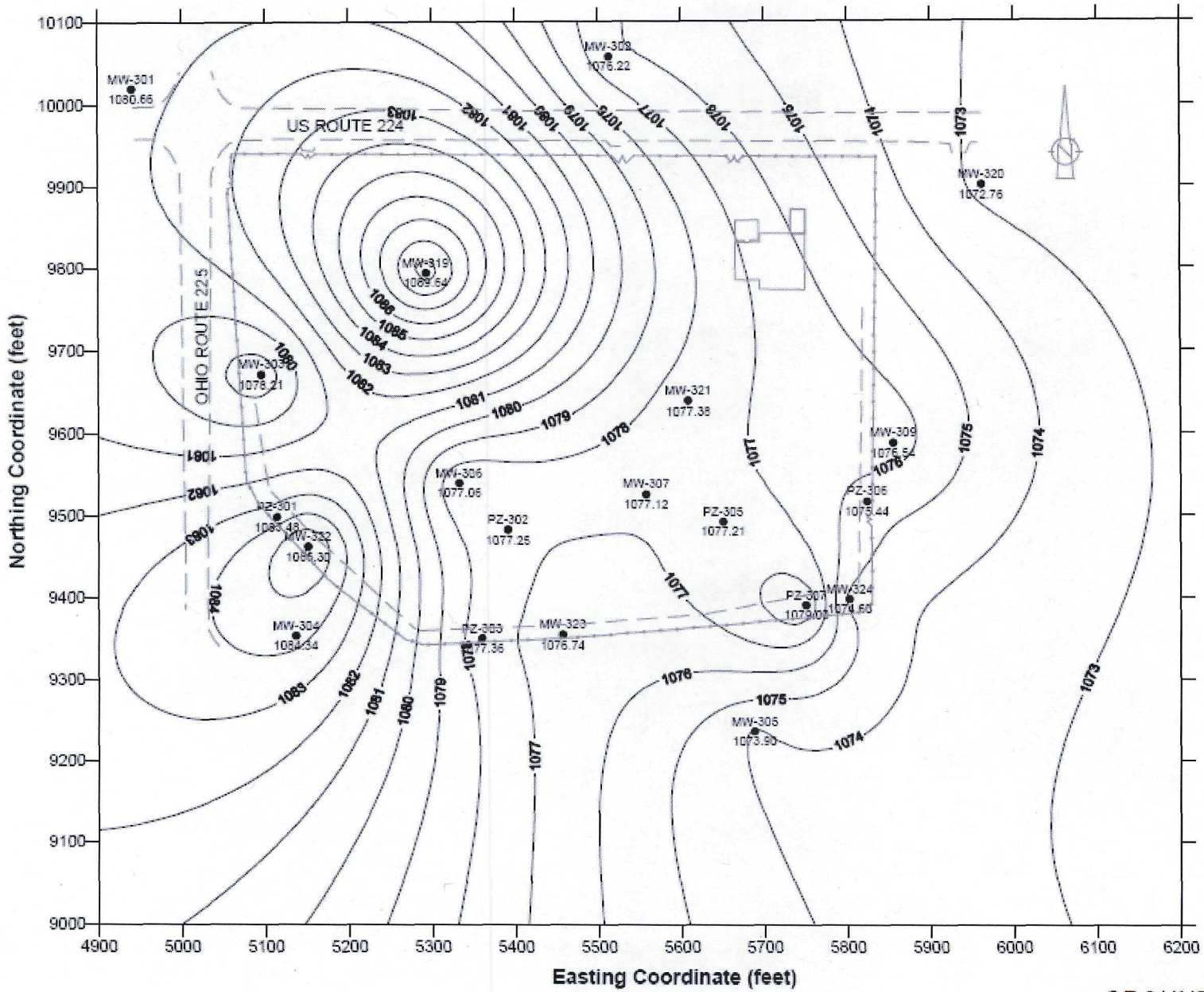
GROUNDWATER CONTOURS
WATER TABLE UNIT (w/o MANHOLES) -- APRIL 15, 2008
SUMMIT NATIONAL SUPERFUND SITE



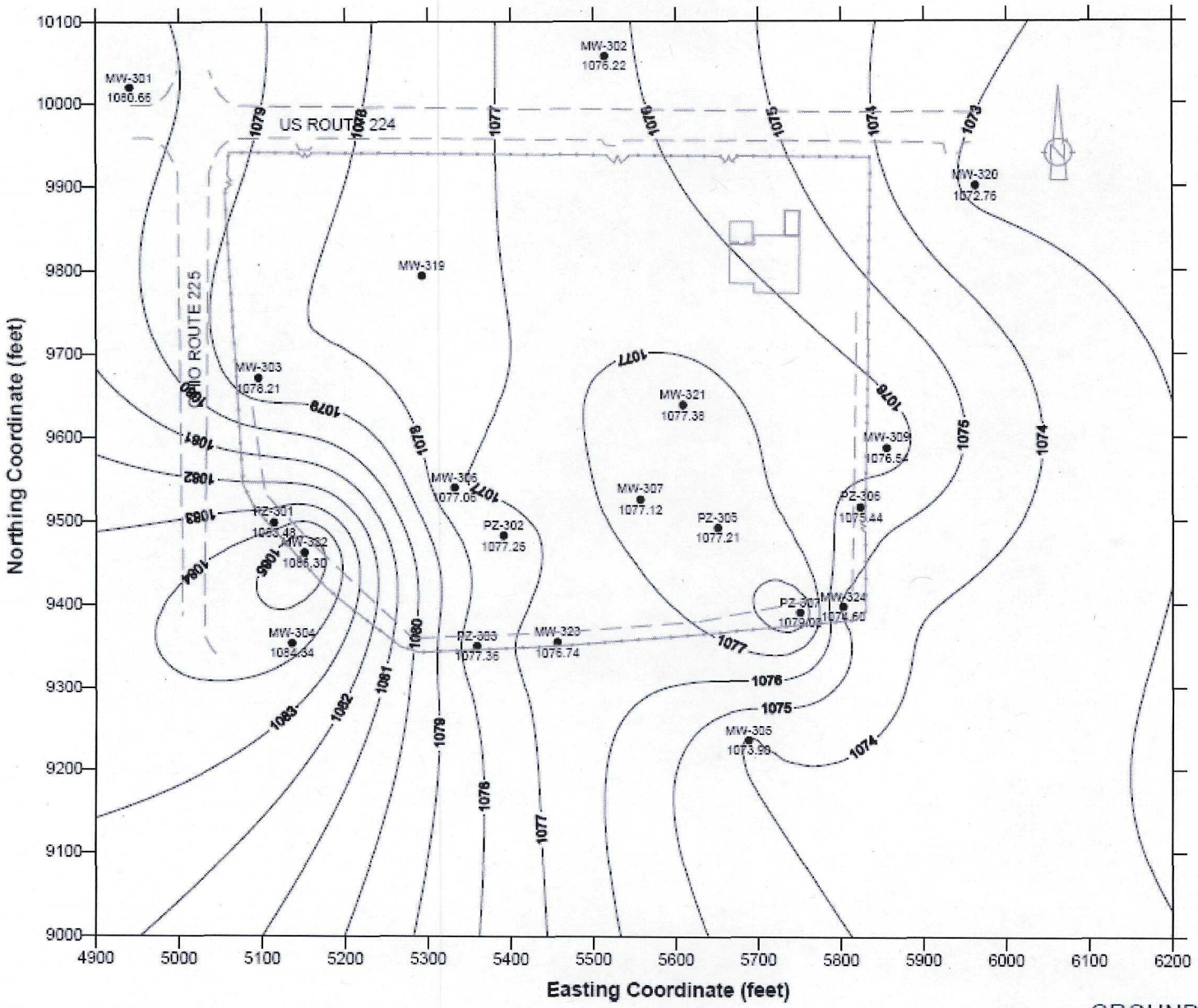
GROUNDWATER CONTOURS
UPPER INTERMEDIATE UNIT -- APRIL 15, 2008
SUMMIT NATIONAL SUPERFUND SITE



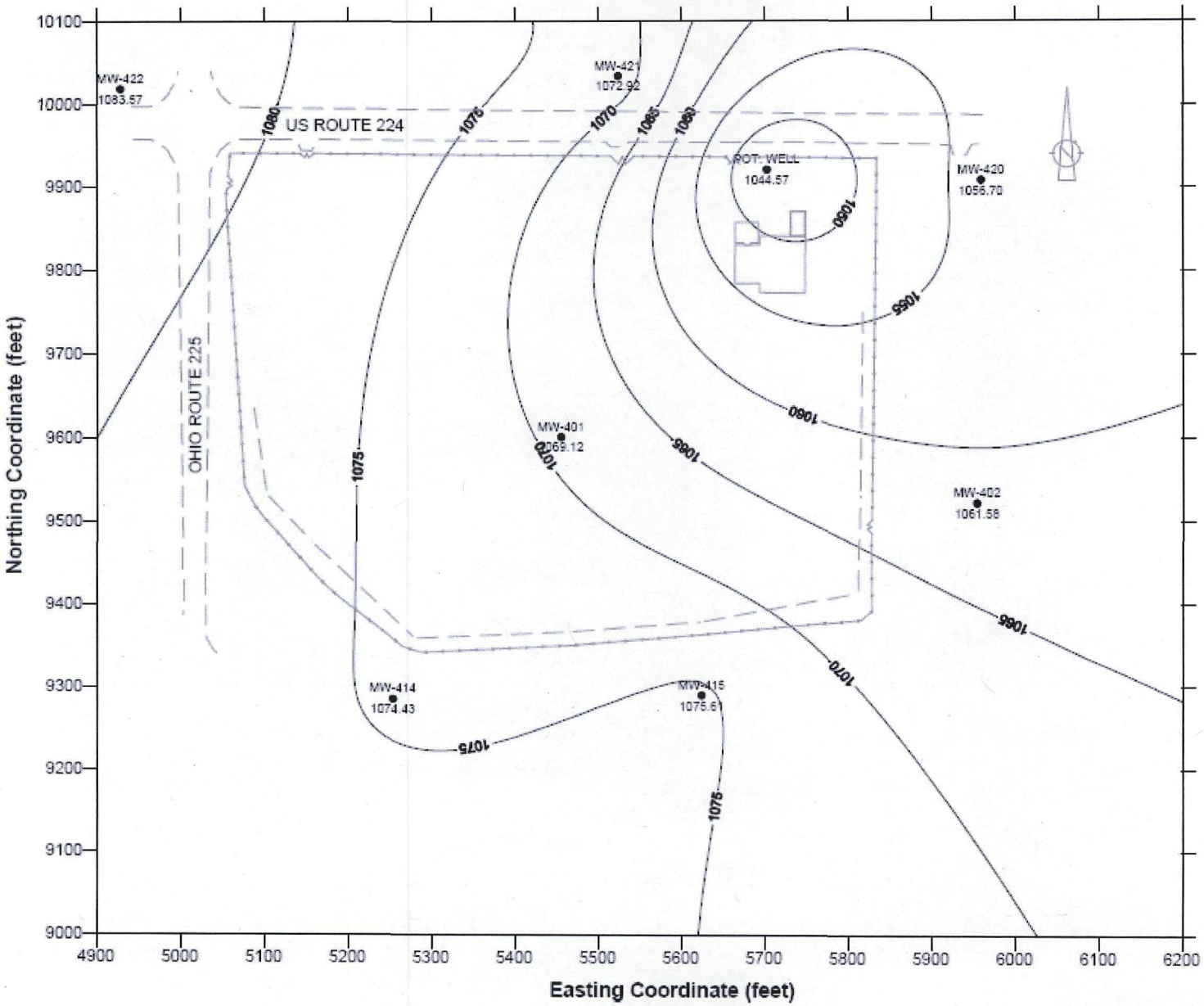
GROUNDWATER CONTOURS
UPPER INTERMEDIATE UNIT (w/o MW-206) -- APRIL 15, 2008
SUMMIT NATIONAL SUPERFUND SITE



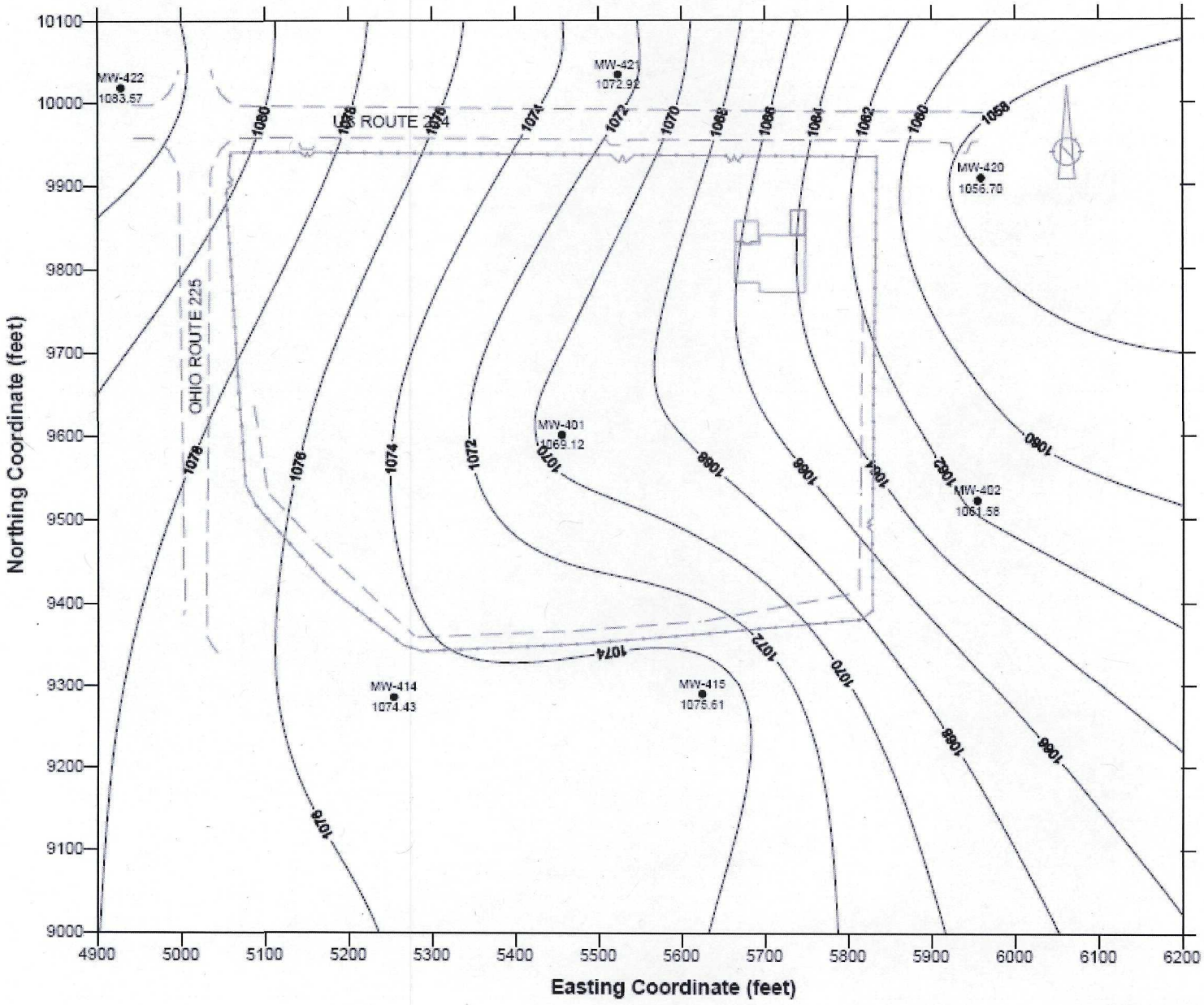
GROUNDWATER CONTOURS
LOWER INTERMEDIATE UNIT -- APRIL 15, 2008
SUMMIT NATIONAL SUPERFUND SITE



GROUNDWATER CONTOURS
LOWER INTERMEDIATE UNIT -- APRIL 15, 2008
SUMMIT NATIONAL SUPERFUND SITE



GROUNDWATER CONTOURS
UPPER SHARON UNIT -- APRIL 15, 2008
SUMMIT NATIONAL SUPERFUND SITE



GROUNDWATER CONTOURS
UPPER SHARON UNIT (w/o POTABLE WELL) -- APRIL 15, 2008
SUMMIT NATIONAL SUPERFUND SITE

ATTACHMENT 8
COMPARISON OF CURRENT PERFORMANCE STANDARDS TO PROJECTED FUTURE STANDARDS

SUMMIT NATIONAL GROUND WATER PERFORMANCE STANDARDS

Chemical	Cas #	ROD Performance Standard	Current Standards*				MCLs
		ug/L	Ingestion Pathway ug/L	Basis	All Pathways ug/L	Basis	ug/L
Benzene	71-43-2	2.99E+00	1.20E+00	Ca	3.40E-01	Ca	5.00E+00
Chloroethane	75-00-3	2.94E+00	1.50E+04	NC	4.60E+00	Ca	
1,2 Dichloroethane	107-06-2	9.40E-01	7.40E-01	Ca	1.20E-01	Ca	5.00E-00
Tetrachloroethylene (PCE)	127-18-4	1.67E+00	1.30E+00	Ca	6.60E-01	Ca	5.00E+00
Trichloroethylene (TCE)	79-01-6	7.74E+00	1.70E-01	Ca	2.80E-02	Ca	5.00E+00
Vinyl chloride	75-01-4	4.00E-02	2.20E-02	Ca	2.00E-02	Ca	2.00E+00

Note.
Ca Carcinogenic Risk
NC Non-carcinogenic Risk
* Single chemical standard calculated at a carcinogenic risk of 10-6 and Hazard Index of 1
Toxicity values source IRIS and USEPA Region 9, standard default exposure factors for a residential population used
The TCE standard is based on a draft health assessment, the values may change
Chloroethane has an inhalation RfC on IRIS, and an oral RfD from NCEA, clarification has been requested re the SF
Vinyl chloride in ground water is assessed based on risk to children

ATTACHMENT 9
TABLE OF ARARS

COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE
LAWS, REGULATIONS, POLICIES AND STANDARDS
SUMMIT NATIONAL SUPERFUND SITE
DEERFIELD TOWNSHIP OF PORTAGE COUNTY, OHIO

Law, Regulation, Policy or Standard	Source of Regulation	Applicability or Relevance and Appropriateness as Applied to Feasibility Study Remedial Alternatives (Tables 6-1 and 6-2 of Feasibility Study)	Applicability or Relevance and Appropriateness as Applied to Final (100% Complete) Design	Final (100% Complete) Design Compliance with ARARs
FEDERAL				
Resource Conservation and Recovery Act (RCRA)	RCRA Subtitle C, 40 CFR 260	RCRA regulates the generation, transport, storage, treatment and disposal of hazardous waste. CERCLA specifically requires in Section 121(c)(3)(B) that hazardous substances from removal actions be disposed of at facilities in compliance with Subtitle C of RCRA	40 CFR 262 establishes the regulatory framework for 40 CFR 261 through 268. Testing results (TCLP) under 40 CFR 261 will determine compliance requirements for ash and groundwater treatment sludges. If these materials are determined to be RCRA characteristic solid waste.	Section 7.7.1) & 7.8.5 Draft O&M Plan
Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities	RCRA Section 3004, 40 CFR 264 and 265	Regulate the construction, design, monitoring, operation, and closure of hazardous waste facilities. Subparts N and O specify technical requirements for landfills and incinerators respectively.	Portions of 40 CFR 264 and 265, Subpart N may apply to on Site containment of incinerator ash if the ash is determined to be a RCRA characteristic solid waste. Portions of 40 CFR 264 and 265, Subpart O may apply to implementation of on Site incineration.	Section 7.7.13 Section 7.7.3
Interim RCRA/CERCLA Guidance on Non-Contiguous Sites and Onsite Management of Waste and Treated Residues	U.S. EPA Policy Statement March 27, 1986	If a treatment or storage unit is to be constructed for onsite remedial action, there should be documentation to demonstrate, remove, or close the unit after the CERCLA action is completed. Should there be plans to accept commercial waste at the facility after the CERCLA waste has been processed, it is EPA policy that a RCRA permit be obtained before the unit is constructed.	Treatment and/or storage units constructed for on Site remedial action should be documented, removed or closed after the remedial action is completed.	Section 8.5.12 of the RD Work Plan
Standards Applicable to Transporters of Hazardous Waste	RCRA Section 3003, 40 CFR 262 and 263, 40 CFR 170 to 179	Establishes the responsibility of offsite transporters of hazardous waste in the handling, transportation and management of the waste. Requires a manifest, recordkeeping, and immediate action in the event of a discharge of hazardous waste.	Portions may apply to off Site disposal of groundwater treatment sludges if they are determined to be RCRA characteristic hazardous wastes. Portions may apply to off Site disposal of RCRA contaminated soils if they are not treated on Site.	Draft O&M Plan Section 7.7.14

COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE
LAWS, REGULATIONS, POLICIES AND STANDARDS
SUMMIT NATIONAL SUPERFUND SITE
DEERFIELD TOWNSHIP OF PORTAGE COUNTY, OHIO

Law, Regulation, Policy or Standard	*Source of Regulation*	*Applicability or Relevance and Appropriateness as Applied to Feasibility Study Remedial Alternatives (Tables 6.1 and 6.2 of Feasibility Study)*	*Applicability or Relevance and Appropriateness as Applied to Final (100% Complete) Design*	*Final (100% Complete) Design Compliance with ARAR*
EPA Administered Permit Programs: The Hazardous Waste Permit Program	RCRA Section 3005, 40 CFR 270, 124	Covers the basic permitting, application, monitoring and reporting requirements for offsite hazardous waste management facilities	Not applicable to selected remedy	
EPA Interim Policy for Planning and Implementing CERCLA Offsite Response Actions	40 FR 45933 November 3, 1985	Discusses the need to consider treatment, recycling, and reuse before offsite land disposal is used. Prohibits use of a RCRA facility for offsite management of Superfund hazardous substances if it has significant RCRA violations	Portions may apply to off-Site disposal of PCB contaminated soils if they are not treated on Site	Section 7.7.11
Hazardous and Solid Waste Amendments of 1984 (1984 Amendments to RCRA)	PL 98-616, Federal Law 21 1981	Specific wastes are prohibited from land disposal under the 1984 RCRA Amendments. This includes a ban on the placement of wastes containing free liquids. Also, solvent containing wastes are prohibited here and disposal effective November 1986. EPA is also required to set treatment levels or methods, exempting treated hazardous wastes from the land disposal ban. To date, these treatment standards have not been promulgated. The RCRA amendments will also restrict the landdisposal of most RCRA listed wastes by 1991 unless treatment standards are specified	Hazardous and Solid Waste Amendments of 1984 have been incorporated into 40 CFR Part 264	

COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE
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Law, Regulation, Policy or Standard	*Source of Regulation*	*Applicability or Relevance and Appropriateness as Applied to Feasibility Study Remedial Alternatives (Tables 6-2 and 6-2 of Feasibility Study)*	*Applicability or Relevance and Appropriateness as Applied to Final (100% Completed) Design*	*Final (100% Completed) Design Compliance with ARARs*
National Pollutant Discharge Elimination System (NPDES) Permit	Clean Water Act Section 402, 40 CFR 122, 123, 125 Subchapter N	Regulates the discharge of water into public surface waters	Portions may apply to surface discharge of treated groundwater	Section 5.0
Toxic Pollutant Effluent Standards	40 CFR 129	Regulates the discharge of the following pollutants: aldrin/dieldrin, DDT, endrin, toxaphene, benzidine, and PCBs	Not applicable as pesticides and PCBs were not identified as contaminants in the groundwater	
U.S. EPA Groundwater Protection Strategy	U.S. EPA Policy Statement August 1984	Identifies groundwater quality to be achieved during remedial actions based on the aquifer characteristics and use	Performance standards for groundwater remediation are specified in the Design Criteria Document	
Conservation of Wildlife Resources	Fish and Wildlife Coordination Act	This act requires agency consultation prior to modifying any body of water	Not applicable to selected remedy	
Occupational Safety and Health Act (OSHA)	29 CFR 1910	Regulates working conditions to assure safety and health of workers	Portions apply to all phases of remedial construction	Health and Safety Plan in RC Work Plan
Underground Injection Control Regulations	40 CFR 146	None of the alternatives include the underground injection of materials	Not applicable to selected remedy	
Ocean Dumping Requirements	40 CFR 220-224 [illegible] CFR 220, 224	Implementation of the alternatives does not include the dumping of any materials in the ocean	Not applicable to selected remedy.	
Disposal of certain waste material containing TCDD (40 CFR Parts 260 to 267 Subpart D)	40 CFR Parts 260 to 267 Subpart I	The contaminated materials to be disposed of or treated in any alternative do not contain TCDD as a contaminant	Not applicable to selected remedy.	
Uranium Mill Tailing Rules		The site contains no uranium mill tailings.	Not applicable to selected remedy.	

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Law, Regulation, Policy or Standard	*Source of Regulation*	*Applicability or Relevance and Appropriateness as Applied to Feasibility Study Remedial Alternatives (Tables 6-1 and 6-2 of Feasibility Study)*	*Applicability or Relevance and Appropriateness as Applied to Final (100% Complete) Design?*	*Final (100% Complete) Design Compliance with ARARs*
Radioactive Waste Rule - High and Low Level		The site does not contain high or low level radioactive waste	Not applicable to selected remedy	
Asbestos Disposal Rules	40 CFR 763	Asbestos was not measured at the site	Not applicable to selected remedy	
National Register of Historic Places	Archeological and Historical Preservation Act of 1974	Implementation of the alternatives will not affect sites on the register	Not applicable to selected remedy	
Wild and Scenic Rivers Act	40 CFR 6.302	Rivers on the national inventory will not be affected by alternatives	Not applicable to selected remedy	
Protection of Threatened or Endangered Species and Their Habitats	50 CFR 402	Implementation of the alternatives will not affect threatened or endangered species and their habitat	Not applicable to selected remedy	
Conservation of Wildlife Resource	Fish and Wildlife Coordination Act	Implementation of the alternatives will not affect areas of important wildlife resources	Not applicable to selected remedy	
Coastal Zone Management		Implementation of the alternatives will not affect a coastal zone	Not applicable to selected remedy	
Toxic Substance Control Act	40 CFR 761	TSCA requirements apply to wastes containing PCB concentrations of 50 ppm or more. Site does not contain PCB at concentrations which would trigger TSCA requirements.	Portions of 40 CFR 761.6 may apply to off-Site disposal of PCB contaminated soils if they are not treated on Site. Portions of 40 CFR 761.7 may apply to off-Site incineration of PCB contaminated soils if they are treated on Site.	Section 7.7.14 Section 7.7.2
Permits for Discharges of Dredged or Fill Material Into Waters of the U.S.	Section 404 Permit	Implementation of alternatives does not call for discharge into U.S. waters	Not applicable to selected remedy	
Great Lakes Water Quality Agreement of 1978		Site not part of Great Lakes basin ecosystem	Not applicable to selected remedy	